REPORT RESUMES

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PROJECT HEAD START--SUMMER 1966. FINAL REPORT. SECTION THREE, PUPILS AND PROGRAMS.

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THIS DOCUMENT IS SECTION 3 OF A 3-PART REPORT BY THE EDUCATIONAL TESTING SERVICE. THE DATA USED IN THIS SECTION WERE COMPILED FROM 79 CLASSES CONTAINING ABOUT 1,000 PUPILS. THE CLASSES WERE PART OF THE 1966 SUMMER HEAD START PROGRAM. THE PURPOSE OF THIS DOCUMENT IS TO NOTE GENERAL PERFORMANCE CHANGES IN THE PUPILS AS MEASURED BY TESTS ADMINISTERED AT THE BEGINNING OF THE PROGRAM AND AGAIN AT THE END. THE RESULTS WERE INTERPRETED AS SHOWING THAT, ALTHOUGH THE PUPILS' SCORES WERE BELOW THE DESIRED INTELLIGENCE LEVEL NORMS OF THEIR AGE-GROUP AT BOTH THE BEGINNING AND END OF THE PROGRAM, SOME POSITIVE IMPROVEMENT DID OCCUR. BECAUSE OF THE EXPERIMENTAL DESIGN, IT WAS NOT POSSIBLE TO DEFINITELY ASSESS THE EXTENT, OR EVEN THE VERY EXISTENCE, OF CONTRIBUTIONS BY 4 POSSIBLE CAUSES OF THE IMPROVEMENT IN PERFORMANCE. THE 4 POSSIBLE CAUSES WERE (1) THE HEAD START PROGRAM, (2) MATURATION, (3) OUTSIDE EXPERIENCES, AND (4) TESTING EFFECTS. A SECOND ASPECT OF THE STUDY, CLASSROOM OBSERVATION, PRODUCED AN ADDITIONAL SET OF POSSIBLE INFLUENCES ON PUPIL PERFORMANCE, NAMELY, (1) TEACHER CHARACTERISTICS, (2) PUPIL CHARACTERISTICS, (3) PUPIL EXPERIENCES IN THE CLASSROOM, AND (4) SCHOOL-COMMUNITY-PARENTAL FACTORS. (WD)

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Project
Head Start
Summer 1966

Section Three

Pupils and Programs

George Temp
Scarvia B. Anderson

FINAL REPORT

PS 000265

Final Report under
Contract No. OEO-1359
dated June 15, 1966
between
Educational Testing Service and
The Office of Economic Opportunity

This is one of three sections of the Final Report. The sections are:

I. *Some Characteristics of Children in the Head Start Program*, by Richard H. Williams and E. Elizabeth Stewart.

II. *Facilities and Resources of Head Start Centers*, by Joseph L. Boyd.

III. *Pupils and Programs*, by George Temp and Scarvia B. Anderson.

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Final Report

Project Head Start--Summer 1966

Section three:

Pupils and Programs

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PS 000265

Educational Testing Service, Princeton, New Jersey

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Background Note

The purpose of this report is to summarize data collected on behalf of the Research and Evaluation Division, Project Head Start, Office of Economic Opportunity. The data reported and discussed here were compiled on the Summer 1966 Project Head Start program under provisions of a contract between Educational Testing Service and the OEO.

The portion of the contracted work reported in this section deals primarily with investigation of the relationships between pupil and program characteristics and pupil outcomes on certain prescribed instruments and other newly developed instruments. As contractor, ETS was requested to (a) collect ~~pre and post~~ pupil performance data on all children in selected classrooms; (b) conduct and record intensive observations of these classrooms; (c) appraise involvement of parents in the program; and (d) perform such statistical analyses as might be necessary to determine the relationships among the measured variables.

In cooperation with the Research and Evaluation Division of Project Head Start a design for analysis of all data collected was prepared. This design was guided by a list of research and evaluation questions provided by personnel from Project Head Start with suggested amendments by ETS staff.

The following pages, with technical appendices, represent the Final Report of work completed under the arrangements noted above.

Acknowledgments

The authors of this report are greatly indebted to:

Dr. Edmund Gordon, Director, Research and Evaluation, Project Head Start, Office of Economic Opportunity, for the many penetrating questions he posed during the course of the study.

Dr. Joseph Boyd who served as coordinator of all of the Head Start work ETS conducted in the summer of 1966.

Other ETS staff members from Curriculum Studies, Statistical Analysis, and Data Processing who helped with the design and analysis of the study: Dr. Elizabeth Stewart, Dr. Donald Trismen, Dr. Richard Williams, Mrs. Arleen Barron, Miss Elaine Marikakis, Mr. William Van Hassel, and Mr. Robert Stellman.

Dr. Marshall P. Smith, Trenton State College, who served as a consultant to the project.

Psychologists and educators (listed in Appendix) from all over the country who quickly and efficiently mobilized the necessary teams of testers and observers to collect the data of the study.

The Head Start Centers and teachers who were wonderfully cooperative.

The parents who willingly answered our interviewers' questions.

And—most of all—the children.

Summary of Highlights of this Section

(Project Head Start—Summer 1966)

Pupils and Programs

1. The classes (children) studied in summer 1966 Head Start programs, although still below established and desirable developmental performance on the widely-used Stanford-Binet intelligence test, performed beyond what would be expected on the basis of the time intervening between observations.
2. These same classes (children) on a newly developed inventory of behaviors (Project Head Start Behavior Inventory) were generally scoring positively at the beginning of the instructional sessions and slightly more positively at the end.
3. Summer 1966 Head Start classes (children) on the Preschool Inventory obtained higher total scores (and higher subscores) at the end of the instructional program than at the beginning.
4. Teachers of Head Start classes were in general prepared and experienced.
5. Classroom observed activities, although varied, were in the direction desired by child development experts.
6. Parental evaluation and involvement in Head Start programs was high and positive.
7. Only a few associations between specific differences in Head Start classes and amount of pupil change were noted.

FINAL REPORT

There are very large differences in children admitted to Head Start centers and equally large differences in "graduates" of such programs. This truth is well known. And the need to present evidence of these differences is not great, although such evidence is of some interest to most readers. However, there is a need to look at this same information in other ways when you wish to talk about possible effects of Head Start participation on children. Specifically, we shall look at the information collected in order to describe children at the beginning of Head Start and at the end, and to point to particular changes observed.

The actual instruments used to observe children will limit, of course, the portion of their development that can be discussed--many important areas of personal growth, motivation, and success were not observed. All studies of human behavior draw the line somewhere in the interest of time or money or respect for individuals. The present study limited observation to two individual sessions per child and two classroom observations of a nationwide sample of 79 classes with nearly 1,000 pupils during the summer 1966 Head Start program. Therefore, no child nor class was interrupted for very long from the educational purposes of the program and most classes and children were not disturbed at all. In addition, information about teachers' experience and training and parental knowledge of the local Head Start effort was collected.

Classes were observed because they, just as children, also vary. There are different facilities and materials available; teachers approach their responsibilities differently; and the curriculum is not so ordered or set as in more formal class situations. If changes were noted in the children of Head Start, it seemed sensible to see whether variations in programs were associated with these changes. The use of such information for future Head Start program planning will be discussed. Of course, information about classroom differences is also limited to the actual observations made from the unlimited number of possible observations that could have been made.

The identification of reliable scientific knowledge is a difficult task and many pitfalls exist in uncovering it. Commonly, there are agreements about data but disagreements about what such information means. A number of technical appendices are included for the aid of persons desiring to examine in detail the data collected and the methods used to obtain it.

Where were Head Start classes (children) at the beginning?

The first observation of Head Start children was begun as soon as practical after the first week of the 1966 summer programs. Because of individual, local administration of all Head Start programs, different starting dates were common. However, individual pupil information collection was started early in each program. The instruments used were the Stanford-Binet (L-M, short form), the Project Head Start Behavior Inventory, and the (Caldwell-Soule) Preschool Inventory.

The following table summarizes information obtained using the well-known and widely-used Stanford-Binet:

TABLE 1.

First Observation of Head Start Classes
(Stanford-Binet, short form)

Average actual age of classes = approx. 5 years 9½ months old

Average mental age of classes = approx. 5 years old

(average all classes, rounded numbers)

(The 79 classes observed ranged from average mental age equal to approx. 4 years old to average mental age equal to approx. 6 years 8½ months.)

* * *

On the Project Head Start Behavior Inventory, groups of items are scored to produce subscores. To indicate the kinds of information collected the first such group of items is reproduced below. (See Appendix B for all subscores.) The purpose of such a Behavior Inventory is descriptive. It is difficult, however, to interpret such descriptions without deciding upon some goal desired or without comparing one group's description with another group's description. In the present study, only Head Start children were involved so the interpretation presented is from first observation to second. (See section on Observed Changes, pp. 13-15.)

TABLE 2.

First Behavior Inventory of Head Start Classes
(subscore one, only)

Items

33. Likes to talk with or socialize with the teacher

35. Is eager to inform other children of the experiences he has had

38. Is usually polite to adults; says "Please," "Thank you," etc.

45. Is wanted as a playmate by other children

7. Often keeps aloof from others because he is uninterested, suspicious, or bashful

16. Has little respect for the rights of other children; refuses to wait his turn, usurps toys other children are playing with, etc.

24. Is reluctant to talk to adults; responds verbally only when urged

37. Is uncooperative in group activities

Subscore One Data

Highest possible score = 32
Lowest possible score = 8

Highest scoring class = 29
Lowest scoring class = 17

Average score of 79 Head Start classes = 23

(rounded numbers)

* * *

Similarly, groups of items on the Preschool Inventory are scored to produce subscores. However, it is also possible to derive a total score based upon all of the items in the inventory. Reported below are sample items from each of the four subscores in this inventory but with total score performance reported rather than subscores. (See Appendix C for all scores.)

TABLE 3.

First Preschool Inventory of Head Start Classes
(selected items--total score)

Items (examples)

Subscore one

When is your birthday?
Put one car in middle-size box.

Subscore two

What time of year is hottest?
What does policeman do?

Subscore three

How many wheels on a wheelbarrow?
Point to middle one. (object)

Subscore four

Draw a triangle.
Which is heavier--brick or shoe?

Total Score Data

Highest possible score = 90
Lowest possible score = 0

Highest scoring class = 70
Lowest scoring class = 26

Average score of 79 Head Start classes = 53

(rounded numbers)

* * *

A generalized summary of the information above (and in the Appendices) to answer the question of where were Head Start classes (children) at the beginning of the summer program would be:

The children studied in summer 1966 Head Start programs were generally below established and desirable developmental performance on one widely-used intelligence test; were generally scoring positively on an inventory of behaviors (desired and undesired); and were able to answer correctly about 59 percent of the preschool inventory questions at the beginning of the instructional sessions.

Where were Head Start classes (children) at the end?

The second individual observation of the same Head Start children was scheduled to begin during the next to the last week of the summer program (usually eight weeks). This was to allow for adequate time for all observations and to keep from losing individuals because of early departure. The instruments used were the same. The following tables summarize information obtained on the same classes (children) and the same instruments reported earlier.

TABLE 4.

Second Observation of Head Start Classes
(Stanford-Binet, short form)

Average actual age of classes = approx. 5 years 11 months old

Average mental age of classes = approx. 5 years 3½ months old

(average all classes, rounded numbers)

(The 79 classes observed ranged from average mental age equal to approx. 4 years 2 months to average mental age equal to approx. 7 years.)

* * *

(See table on the following page)

TABLE 5.

Second Behavior Inventory of Head Start Classes
(subscore one, only)

Items

33. Likes to talk with or socialize with the teacher

35. Is eager to inform other children of the experiences he has had

38. Is usually polite to adults; says "Please," "Thank you," etc.

45. Is wanted as a playmate by other children

7. Often keeps aloof from others because he is uninterested, suspicious, or bashful

16. Has little respect for the rights of other children; refuses to wait his turn, usurps toys other children are playing with, etc.

24. Is reluctant to talk to adults; responds verbally only when urged

37. Is uncooperative in group activities

Subscore One Data

Highest possible score = 32
Lowest possible score = 8

Highest scoring class = 30
Lowest scoring class = 20

Average score of 79 Head Start classes = 24

(rounded numbers)

* * *

(See table on the following page)

TABLE 6.

Second Preschool Inventory of Head Start Classes
(selected items--total score)

Items (examples)

Subscore one

When is your birthday?
Put one car in middle-size box.

Subscore two

What time of year is hottest?
What does policeman do?

Subscore three

How many wheels on a wheelbarrow?
Point to middle one. (object)

Subscore four

Draw a triangle.
Which is heavier--brick or shoe?

Total Score Data

Highest possible score = 90
Lowest possible score = 0

Highest scoring class = 74
Lowest scoring class = 35

Average score of 79 Head Start classes = 58

(rounded numbers)

* * *

To answer the question (where were Head Start classes (children) at the end) in a generalized way, based upon the information collected, it can be stated:

The children studied in summer 1966 Head Start programs were generally below established and desirable developmental performance on one widely used intelligence test; were generally scoring positively on an inventory of behaviors (desired and undesired); and were able to answer correctly slightly more than 64 percent of the preschool inventory questions at the end of the instructional sessions.

Were changes observed in Head Start classes (children)?

Although to some people the generalized answers to the questions about beginning and ending status of Head Start classes would seem to dictate the answer to the present question, such is not the case. A comparison of before and after statements on a point by point base (with accurate, comparable numbers) must be made to reveal the differences often hidden by gross generalized comparisons. However, because it is only possible to measure human behavior roughly, often two precise measurements although apparently different may neither be correct; they may be only slightly negative and slightly positive descriptions of the same thing.

Errors from looking at only gross comparisons are avoided by attempting precise measurements of people and outcomes. Errors from too much dependence upon precise measurement are avoided by statistical analysis. The ways of allowing for such measurement errors are well developed in scientific work and the details need not delay us here. (See Appendices A, B, and C for statistical tests used.)

In order to answer the question about whether changes were observed in Head Start classes (children), we must look at both before and after performance on a point by point basis, and we must test that any changes so revealed are statistically significant changes.

The following tables place relevant information reported earlier and available in the Appendices in position for easy comparison.

TABLE 7.

Observation of Head Start Classes (Stanford-Binet, short form)
(79 classes)

	Average Actual Age	Average Mental Age	Average I. Q.
First observation	5 years 9½ months	5 years	85
Second observation	5 years 11 months	5 years 3½ months	89+
Statistically Significant Gain	1½ months	3½ months	4½

(all rounded values in table)

* * *

TABLE 8.

Observation of Head Start Classes (Behavior Inventory)
(79 classes)

Behavior Inventory	Possible		First Observation	Second Observation	Statistically Significant Gain
			(average all classes, rounded numbers)		
Subscore	Low	High			
1	8	32	23	24	yes
2	6	24	16	16	no
3	8	32	22	23	yes
4	4	16	10	11	yes
5	8	32	24	24+	yes
6	4	16	12	12	no
7	4	16	12	12	no
8	6	24	16	17	yes
9	2	8	5	5+	yes

* * *

TABLE 9.

Observation of Head Start Classes (Preschool Inventory)
(79 classes)

Preschool Inventory	Possible	First Observation	Second Observation	Statistically Significant Gain
		(average all classes, rounded numbers)		
Subscore 1	26	18	20	yes
Subscore 2	26	11	12	yes
Subscore 3	19	10	11	yes
Subscore 4	19	14	15	yes
Total Score	90	53	58	yes

* * *

To summarize the above information in general terms:

1. The classes (children) studied in summer 1966 Head Start programs, although still below established and desirable developmental performance on the widely-used Stanford-Binet intelligence test, performed beyond what would be expected on the basis of the time intervening between observations.
2. These same classes (children) on a newly developed inventory of behaviors (Project Head Start Behavior Inventory) were generally scoring positively at the beginning of the instructional sessions and slightly more positively at the end.
3. Summer 1966 Head Start classes (children) on the Preschool Inventory obtained higher total scores (and higher subscores) at the end of the instructional program than at the beginning.

What are the reasonable alternative sources of these observed changes?

Concern in interpretation of the reported changes mentioned above arises from the fact that human beings (especially young children) are constantly exposed to many experiences that may influence their behavior and learning. For example, during the period of time of an investigation of the effect of certain school experiences on youngsters, the children are also watching television, talking to adults and other children, enjoying or reacting to experiences in the home and neighborhood.

In well controlled experimentation certain procedures may be built into the study to assess the effects of these and other experiences in order that clear-cut statements may be made about the effect on children of the school experiences being investigated. These procedures generally involve random assignment processes and control group methods.

In the present study random assignment was not possible and appropriate control group data were not readily collectable within the limitations of time and money. Therefore, certain reasonable alternatives must be considered in attempting to decide what particular sources of learning and changed behavior might account for the gains noted in Head Start classes during summer 1966.

The four reasonable sources of changes in the children studied are:

(1) Head Start programs

(2) Maturation

(3) Outside experiences (home, play, etc.)

(4) Testing effects

Although it will be impossible to decide among these alternatives unequivocally (and all probably contribute to the noted gains), it is helpful to discuss in general terms the different effect to be expected when each is the dominant source of change.

Program changes (such as those introduced by Head Start) most generally should result in rather sudden gains on the specific skills, abilities, and knowledge provided in any curriculum. This is nothing more profound than saying that children learn what is specifically taught and they ought to gain on measures that are directly or indirectly related to the instructional content.

Maturational changes refer to gains noted over a period of time on aspects of development for which we often cannot identify any instructional situation. That is, for example, children may not be able to run at one age and then at a later age are observed to be running quite well —all without specific instructional aid or intent. An identifying characteristic of maturational changes is relative slowness or undifferentiated acquisition stages before change is noted from one observation to another. Therefore, most authorities agree that maturational changes are a constant and underlying source of observed changes (especially in younger children). Such change processes should be considered whenever substantial periods of times are covered by an investigation. Because of the slowness of maturational processes, it seems unlikely that they could account for the gains noted in Head Start children (except, perhaps, the gains noted on the Behavior Inventory).

Another source of change with possibly sudden or drastic results in observed behavior, however, is individual experiences outside of the class time devoted to Head Start. Such experiences are, in effect, the "curriculum" of the home and neighborhood and its results may be very much like the program or planned experiences in the school, especially the preschool. It would be fruitless to argue the case for or against the effect of outside experience during the summer of 1966 without data from children eligible but not enrolled in summer 1966 Head Start programs. It seems unlikely, however, that such outside experiences as might have occurred during that summer were substantially different from those experiences which have occurred in the past. (These past experiences had produced so little effect that Head Start programs were initiated to remedy the deficit.) A defensible position is that outside experiences undoubtedly contributed to the noted gains but cannot account for the unexpected gain in mental age, for instance, above and beyond 1½ months. Future research may provide evidence so this question can be decided on a factual basis.

Testing effects as a possible source of observed changes is at least partially eliminated by the statistical tests already reported on the information obtained. The noted and emphasized changes have survived an evaluation that takes into account testing fluctuations. There are, however, other possible influences of tests on students and teachers which are not evaluated by the statistical methods used. These include reactions to (or learning from) the tests by both students and teachers, the added experience or reaction of test administrators, and variations induced by personal reactions between the test administrator and the student taking the test.

It is possible, of course, to defend the idea that even while taking a test a child at this age is constantly learning. In particular he is learning how to interact and react to adults and new situations. Such learning would seem to be an important outcome for Head Start children. To be able to state exactly what portion of change is due to this one learning experience (and from each of the numerous other possible sources of changed scores) a controlled investigation is necessary.

In the present case, as noted, rigorous control was not practical and therefore mention must be made of several possible sources of change noted above. It is possible that a case could be made for any of these alone or in combination as accounting for a portion of the gains in overall class means cited earlier.

To summarize, it is stated that there are several possible alternatives as sources of the observed changes in summer 1966 Head Start children that should be considered. An extreme position would be that all of the noted gains could be attributed to sources other than the program of Head Start; a more realistic position would be that a portion of the gain should be attributed to factors other than Head Start programs. However, it is not unreasonable to assume on the basis of the information reported that the program of Project Head Start did make a difference in children.

Did Head Start classes differ? In what ways?

To those acquainted with the problems of instruction of any age group, the answer to the first question is well known. Yes, Head Start classes, as classes of all kinds, did differ from each other in many aspects. Only a portion of the many ways in which classes are likely to differ were studied. For each of the selected ways in which classes were to be studied some schedule or procedure of observation was designed. These information collection forms are available in a separate appendix. In general, the differences studied may be grouped in four broad areas:

(1) Teacher's background and experience

(2) Characteristics of students in the class

(3) Specific observed experiences of students

(4) Various school-community-parental attributes

The four tables following, although lengthy, summarize most of the descriptive information collected. Particular portions of each table are discussed within the text but the reader is urged to explore all information in the tables in order to form his own picture of the ways in which Head Start classes varied.

Variations in teacher characteristics

Answers to 11 specific questions about the teacher's training and experience form the background for attempting a descriptive paragraph or two about the instructional staff in summer 1966 Head Start. The format of this information collection sheet was simple and direct. No teacher needed to spend more than a minute or two in completion of the information. A copy of the form is in the Forms Appendix and should be examined to see the choice format of this schedule.

If it was desired that Head Start teachers be experienced, female, specially (although briefly) trained for Head Start, and from predominantly elementary education college majors, such was largely the case. Response summaries in Table 10 show the exact percentages of teachers selecting each alternative.

Most Head Start teachers also had taught preschoolers and the educationally disadvantaged prior to the summer 1966 program. About 41% stated that they live in the neighborhood served by the Head Start

TABLE 10.

How Do the Head Start Classes Vary?

In terms of Teacher Background and Experience

		No. of Teachers	Percentage
Sex		78	
male			5.1
female			94.9
All teaching experience -		74	
	first		5.4
	some but < 5 yrs.		25.7
	> 5 yrs.		68.9
Preschool teaching experience -		74	
	first		36.5
	some but < 5 yrs.		41.9
	> 5 yrs.		21.6
Previous experience with Head Start -		78	
	none		59.0
	yes, but not as teacher-in-charge		7.7
	as teacher-in charge		33.3
Experience working with disadvantaged children -		78	
	first		21.8
	some but < 5 yrs.		43.6
	> 5 yrs.		34.6
Highest level of education -		73	
	high school		1.4
	some college		8.2
	Bachelor's degree		43.8
	some graduate work		30.1
	Master's or above		16.4
Undergraduate major -		70	
	elementary educ.		70.0
	preschool educ.		5.7
	other		24.3
Graduate major -		32	
	elementary educ.		62.5
	preschool educ.		6.3
	other		31.3
Special training for Head Start -		68	
	none		8.8
	local training program		10.3
	6-day college sponsored		76.5
	8-week college sponsored		4.4
Residence -		78	
	not in center neighborhood		59.0
	in center neighborhood		41.0
Number of Head Start classes taught concurrently		78	
	one		93.6
	more than one		6.4

center in which they worked. It is interesting that over 16% held a Master's Degree or above. Few teachers were responsible for more than one class during the summer program.

In summary, although classes of course have only one particular teacher, teachers of Head Start classes were generally prepared and experienced. This means that the chance of any particular child having a prepared and experienced teacher for the summer Head Start program was very high.

Variations in characteristics of pupils in Head Start classes

Although differences among classes because of differences among children have been implicit in data presented earlier in this report, it is appropriate to look at these data once again to emphasize such variation. In particular, classes varied in the average value obtained on the Stanford-Binet, the Behavior Inventory, and the Preschool Inventory. In addition, classes may also be described as varying at both the first and second collection of information with these same instruments as well as in amount of change on the same three. Table 11 presents in summary form this information about differences in classes.

Other differences in pupils were collected on the student identification sheet of the Preschool Inventory. Thus, it was possible to calculate proportions or percentages of students in each class with

TABLE 11.

How Do the Head Start Classes Vary?
In terms of Pupil Characteristics
(N = 79 classes)

	Mean of Means	Std.Dev. of Means	Lowest Mean	Highest Mean
Binet M.A. - pretest mean	59.74	6.63	45.50	80.40
posttest mean	63.48	6.80	49.73	84.40
change mean	3.74	1.84	-2.00	7.38
Binet I.Q. - pretest mean	84.88	7.78	67.21	106.70
posttest mean	89.44	8.06	72.91	110.50
change mean	4.56	2.97	-2.80	13.31
Preschool Inventory 1. Pers.-soc. resp.				
pretest mean	18.46	2.30	10.00	22.62
posttest mean	19.72	2.03	13.62	22.88
change mean	1.26	1.18	-1.08	6.54
2. Associative Vocabulary				
pretest mean	10.79	2.79	3.40	16.80
posttest mean	12.48	3.26	4.70	19.40
change mean	1.69	1.63	-3.00	4.73
3. Concept - numerical				
pretest mean	10.12	2.13	5.20	14.50
posttest mean	11.08	2.09	6.25	14.80
change mean	.95	.98	-.69	3.31
4. Concept - sensory				
pretest mean	13.96	2.19	7.40	17.67
posttest mean	14.83	1.90	9.00	17.87
change mean	.87	.82	-.50	3.38
Total score				
pretest mean	53.34	8.80	26.00	70.40
posttest mean	58.11	8.63	35.12	74.33
change mean	4.77	3.03	-1.86	15.85
Behavior Inventory Score 1				
pretest mean	22.78	2.37	17.18	29.00
posttest mean	24.13	2.19	20.45	30.19
change mean	1.35	1.73	-2.00	7.38
Score 2				
pretest mean	15.82	1.22	12.23	18.00
posttest mean	16.00	1.10	12.69	19.12
change mean	.18	.89	-2.00	2.25
Score 3				
pretest mean	21.86	2.16	17.60	30.00
posttest mean	23.10	2.30	18.10	29.30
change mean	1.24	1.73	-2.11	7.23
Score 4				
pretest mean	10.31	1.27	6.71	13.40
posttest mean	10.76	1.18	7.67	13.23
change mean	.45	1.07	-2.00	3.86
Score 5				
pretest mean	24.00	2.35	18.67	30.00
posttest mean	24.42	2.28	19.00	29.08
change mean	.42	1.63	-2.77	5.25
Score 6				
pretest mean	11.99	1.07	9.54	14.70
posttest mean	12.19	1.14	10.22	14.90
change mean	.20	.95	-2.00	3.31

	Mean of Means	Std.Dev. of Means	Lowest Mean	Highest Mean
Score 7				
pretest mean	11.62	1.15	9.10	15.20
posttest mean	11.77	1.23	9.00	15.00
change mean	.15	.89	-2.25	2.29
Score 8				
pretest mean	16.07	1.27	13.23	18.64
posttest mean	16.78	1.52	12.92	21.90
change mean	.71	1.28	-2.69	5.00
Score 9				
pretest mean	5.16	.52	4.25	6.60
posttest mean	5.40	.59	4.38	7.15
change mean	.24	.48	-1.11	1.85
Mean age in months	69.38	6.48	49.75	77.77

	Mean of Variances	Std.Dev.of Variances	Lowest Variance	Highest Variance
Variance of ages of children in the class (in mos.)	30.42	27.49	.44	122.11

	Mean of Percents	Std.Dev.of Percents	Lowest Percent	Highest Percent
Percentage of children in the class whose major language is English	92.76	21.41	0 (2% of classes)	100 (82% of classes)
Percentage of boys in the class	52.54	15.32	10.00	90.91
Percentage of Negroes in the class	51.04	42.76	0 (30% of classes)	100 (29% of classes)
Percentage of Puerto Ricans in the class	.55	3.14	0 (96% of classes)	25.00
Percentage of Mexican-Americans in the class	10.06	27.19	0 (84% of classes)	100 (5% of classes)
Percentage of Orientals in the class	.22	1.37	0 (98% of classes)	100 (1% of classes)

certain distinguishing characteristics. Among these characteristics were mean age of pupils in each class and the spread of ages in a class. Interestingly, although the ages of children in Head Start classes were generally about 5 years 9 months, there was variation from one class with an average age just over 4 years to one with an average age just about 6½ years.

Another example was the percentage of pupils with English as their major language. Some 82% of the classes were completely English speaking. However, 2 percent of classes were composed of students whose major language was not English.

Specific observed experiences

A Classroom Observation Form was designed to systematize the collection of information during the requested "intensive classroom observation" phase of summer 1966 Project Head Start evaluation. Within the purposes of the evaluation it would have been feasible to send educated observers into each of the selected classroom and to ask them to report back in essay form what they had seen. Such reports have been collected before and, when cautiously interpreted, have aided in the formulation of judgments about programs and suggested hypotheses to be tested under more rigorous conditions. In the present instance, it was felt that a small step toward more objective information might be reasonable.

TABLE 12.

How Do the Head Start Classes Vary?

In terms of Classroom Program, Climate, and Organization

(Based on 62 classes for which data from two observations are available)

	Mean	Std.Dev.	Lowest	Highest
Adult/pupil ratio	.20	.07	.09	.40
Rating of adequacy of physical facilities (sum of two ratings, each on 5-point scale from 1 low to 5 high; highest possible score = 10)	6.52	1.66	4	10 (10% of classes)
Rating of availability of instructional and other materials (same type of score as above)	6.55	1.44	4	10 (8% of classes)
Rating of quality of teacher, from 2 low to 10 high (same type of score as above)	6.71	1.52	4	10 (5% of teachers)
Rating of general emotional climate, from 2 unsupportive to 10 supportive (same type of score as above)	8.06	1.24	4	10 (15% of classes)
Rating of organization of activities, from 2 unstructured to 10 structured (same type of score as above)	6.65	1.94	2 (5% of classes)	10 (5% of classes)
Rating of content of activities, from 2 playful stress to 10 informational stress (same type of score as above)	5.50	1.54	2 (5% of classes)	10 (2% of classes)
Percentage of observed classroom behavior (average from two observations) falling into the category of--				
child's choice of activity	18.72	12.04	0	60.71
physical affection shown by teacher or aide	12.78	8.67	0	39.00
child joining another child's activity	13.92	11.63	0	66.63
child encouraged to talk	13.44	9.22	0	48.79
child laughing out loud	14.43	8.69	0	36.75
teacher or aide reading aloud	3.84	4.21	0	18.06
child's talk interrupted by teacher or aide	.50	1.64	0	11.12
child's yawning or resting (not during rest period)	2.74	3.23	0	12.50
child admonished about talking	3.24	4.35	0	15.32
child crying or pouting	3.77	3.83	0	14.16
child hitting another child	4.35	5.05	0	20.87
child's lack of interest	8.23	7.80	0	39.60

	Mean	Std.Dev.	Lowest	Highest
Score for classroom based on first 11 categories below and two observations (possible score range 0-22)	18.15	2.96	10	22 (13% of classes)

	During one of two observations	During both observations
Percentage of classrooms where the following were observed--		
no case in which class could be described as apathetic	6.5	93.5
no case of teacher using sarcasm or ridicule with children	11.3	88.7
evidence that each child felt accepted in the class	12.9	85.5
attention to isolated children	12.9	83.9
children talking to each other spontaneously and after	16.1	80.6
no case of teacher or aide spending long periods talking, telling while children said nothing	24.2	72.6
no period when no one seemed to know what to do	14.5	71.0
opportunities for children to speak before a group	24.2	64.5
exhilarated, excited classroom	19.4	58.1
no children who did not talk to anyone	30.6	53.2
teacher and children plan and complete activity	41.9	48.4
teacher punish child or class with words or actions	37.1	45.2

Consequently, the Classroom Observation Form (included in the Forms Appendix) was written, revised on the basis of consultant comments and trial, and then utilized in the summer 1966 Project Head Start evaluation. Because the summer 1966 evaluation was the first large-scale use of the form, careful attention to the data collection situation must be given during interpretation of the data.

It was hoped that observations of Head Start classes by representatives of ETS would result in several specific behavioral ways to distinguish among classes. Evidence that the particular behaviors did differentiate among classes is contained in Table 12. Such summary data indicate that the behaviors observed occur in different frequencies and that classes vary on any particular behavior in expected ways. Several general statements are of interest:

1. Pupil choice of activities and opportunity to interact with other children were generally observed.
2. Encouragement for verbal activities was strong in most classrooms.
3. General trends for both specific behaviors and more global observed activities were in directions endorsed by most child development experts.

Some descriptive highlights from the classroom observation form indicate that observers saw evidence that each child felt accepted in the class (94% first observation; 90% second observation); that few classrooms were described as apathetic (3% first and second observation); and that children were given opportunities to speak before the whole group or small groups of other children (81% first observation, 73% second observation).

In general, the desired direction on each of the 12 global descriptive questions was selected by no lower than 60% of the observers on any occasion. Most percentages were higher and ranged from 60 to 97% in the direction endorsed by child development experts in general discussions of desirable activities and environments for preschool children.

If it was desired that Head Start classes be supportive emotional climates for pupils, the observers report that most teachers were very supportive; no teacher was rated as highly unsupportive.

The structure or organization of the classroom experiences was also reported as generally structured and this is in conjunction with the report that most classes generally stressed playful aspects of activities. Such terms may be difficult to define but as indicators of general emphases of programs they seem adequate. Highly professionally skilled judges were later used to estimate the reliability of the rating scales and such study indicates the general concepts communicate reliably.

Parent interview schedule

The parent interview schedule was developed in response to the request to obtain information about "parental evaluation of and involvement in the program." The content and format of the instrument were predicated on four assumptions:

1. The more the parent knows about the program in which her child is enrolled the more "involved" she is.

2. "Whether she would want to send another child to Head Start" is more relevant to her evaluation of the program than her response to such a general question as "What do you think of Head Start?"

3. Communication with parents of Head Start children may be difficult, and thus the interviewer should have a great deal of freedom and flexibility in asking questions.

4. The interview should be as brief and unthreatening as possible; it will be less threatening if the atmosphere is more one of obtaining information about the center than about the parent.

As would be expected, average class scores showed a restricted range: 9 to 14.5 (Table 13). Although these average scores are the data of the present classroom analysis, it is of interest to review briefly the individual responses of the 886 parents on whom complete interview data were obtained:

Questions 1, 2: Three-fourths or more of the parents had accurate information about whether their children had been given medical and dental examinations.

Questions

3, 5, 11: About 90% of the parents knew something about field trips in the program, said they talked to their children about what they did at Head Start, and knew about the meals the center provided their children.

4: However, relatively few (30%) could state (within 3) how many children were in their children's classes.

10, 6: Over 80% knew their children's teachers' names, and 70% said they had actually talked to the teachers about their children.

9: About the same percentage indicated they had talked to relatives and friends about their children's being in Head Start.

7, 8: However, many fewer (only about 30%) said that they had talked to Head Start social or medical workers about their children. (Whether such workers were in fact available was not determined.)

12: About 30% of the parents had not visited the Head Start center, but only a tiny fraction of those expressed no desire to do so. Of the 70% who had visited the center, about 10% had actually worked there (as aides, helping on trips, etc.).

13, 14: Almost all parents (over 90%) felt that Head Start had made a difference in their children, but only about half said it had made changes in their own lives.

15: Almost all the parents (97%) said they would want to "do it again"—send another child to Head Start.

TABLE 13.

How Do the Head Start Classes Vary? In terms of Parent Characteristics

	No. of Classes	Mean of Medians	Std. Dev. of Medians	Lowest Median	Highest Median
Median annual income for the class (where 1 =< 1,000, 2 = 1,000 -1,999, 3 = 2,000-2,999, 4 = 3,000-3,999, 5 = 4,000-4,999, 6 = 5,000-5,999, 7 = 6,000-7,999, 8 = 8,000-9,999, 9 = 10,000 or more)	75	3.98 (about $3,500)	1.18	1.43 (about $1,000)	6.25 (about $5,750)
		Mean of Means	**Std. Dev. of Means**	**Lowest Mean**	**Highest Mean**
Mean "Involvement" score, based on interview (possible range 0-17)	77	11.75	1.30	9.00	14.50
		Mean of Percentages	**Std. Dev. of Percentages**	**Lowest Percentage**	**Highest Percentage**
Percentage of noninterviewable mothers in the class	79	8.59	17.45	0 (57% of classes)	100 (3% of classes)

These conclusions, of course, cannot be generalized to the "non-interviewable" mothers, of which there were one or more in 32 of the 77 classes which form the N of this study. Because it was suspected that mothers who were hard to track down for interview (i.e., could not be located in three visits) may be different from the other mothers, the percentage of them in each class was included as a variable in the large correlational matrix.

Comments of classroom observers

Before going on to examine whether there were or were not associations between the specific differences described in the preceding tables and the amount of change noted in classes (children), some subjective comments collected from the observers actually present in the 79 Head Start classes may be of interest. It should be noted that these comments are not meant to represent the full range of activities and incidents that occurred and a particular incident may have occurred only once in all of the summer 1966 program while others may have been frequent events.

For their human interest then the following comments (selected by opening to observation schedules in a pile like a deck of cards) are noted:

(1) Teacher showed me a drawing a boy had made. Coordination so poor when he entered he could not feed himself. Made short circling line marks on paper. Today for first time filled his page with continuous curving lines across page. Is now feeding himself. Teacher commented that 2 more weeks would have meant much to this child.

(2) Two girls playing with wagon and trike tied together for a long time. A third girl wants a turn. Aide gives a little talk on sharing, explaining that in school we share. First two girls look bewildered and both leave in complete surrender. They are back later, however.

(3) One little boy, Danny, came up and asked me if I knew that his daddy had gotten him a dog. He stayed with me for several minutes.

(4) One boy brought a sack of pretty rocks. The teacher developed a good arithmetic lesson. The children estimated the number of rocks, then grouped the rocks in fours to count them. The teacher also brought in enumeration and comparison as she shared the rocks.

(5) One child was noticeably quiet—she had been fitted for glasses the previous day—this observer felt the child was seeing things for the first time—she was especially fascinated by books and pieces of construction paper.

(6) The use of real telephones by the children who were able to make calls to each other by pressing a bell elicited one conversation between two boys regarding the worth of girls—after a lengthy discussion which was

humorous they concluded that boys really are the superior sex—or in their words "good for more." This equipment was one of the most popular in the room and the teacher was always aware of how it was being used--the children were encouraged to use good speech—and manners.

(7) Two paper plates labelled "big" and "little." Children one at a time sorted two sizes of beans for a mixed collection. One girl did successfully. Teacher tried to get "problem" boy to do this—he refused.

(8) All day Johnny craved and demanded attention. While sitting at the teacher's feet he asked to go live with her. She told him she would very much like that, but pointed out that his family would be unhappy and that she had children of her own and no extra bed. He said that he had to sleep on the floor without "cover" and he didn't live with his mama and daddy anyway.

(9) Students are well supervised during their eating periods. They are encouraged to eat all their food but not rushed. Have learned to discard straws and cartons in proper containers, return trays, and push chairs up to table.

(10) One child sustained a cut on his hand while playing with a steel chair. He received immediate sympathy and support from all his classmates.

(11) One little boy was present a few days and has been absent for two weeks. The difference in his actions and those of the other children could be a good measurement of what Head Start can do for children.

(12) A very positive approach taken by the teacher including the use of a Polaroid camera on the field trip--which excited the children when they saw the pictures and--further seemed to give them a favorable source of group identity.

Perhaps these few are enough to give the flavor of the human interactions among students and between students and teachers and to make, once again, the point that classes do differ in what occurs within them. Obviously, only a few of the more readily observed and recorded differences among classes have been reported in the more objective tables. The area where this report can claim to speak with any authority (and that limited by the design and analysis used) is in those objective variables reported above.

Further research is usually needed and a good investigation raises additional questions beyond those considered within its own structure. Further investigation by many different researchers with different questions and orientations should provide further information of genuine interest and value in evaluation of the effects of Head Start programs on children.

Was there an association between specific differences and amount of change?

A portion of the present investigation was to examine the possibility of relationships between specific differences among classrooms and amount of change. A detailed account of the observed change and the ways in which classes varied has been given. This section of the report will present information about the associations examined by the method of correlational analysis. In effect, for each of a number of specific pupil, program and school-community characteristics, the question was asked: Is variation in one characteristic associated with variation in the other characteristic under examination? Obviously, for a study such as this one which examined so many particular characteristics of pupils and programs a very large number of such associations (or correlations) are possible. The actual total correlation matrix calculated runs several score of pages and includes several thousand correlation coefficients. The total table is therefore not reproduced with this report but will be made available through appropriate sources.

The table on the following page reports statistically significant correlations between several possible pretest and/or assignment variables and difference scores on the three main information collection instruments.

TABLE 14.

Pretesting or Assignment Variables
vs.
Difference on 3 Instruments
(All Entered Correlations Significant
at .05 or Greater--Two Tailed Test)

		Stanford-Binet L-M		Preschool Inventory					Project Head Start Behavior Inventory								
	N	MA	I.Q.	1	2	3	4	T	1	2	3	4	5	6	7	8	9
Pre MA	79						-.33										
Pre I.Q.	79						-.27			-.24							
PRE PRESCHOOL INV. Subscore 1	79			-.48		-.23	-.49	-.28									
" 2	79			-.24			-.43	-.24									
" 3	79			-.24	.25	-.27	-.47										
" 4	79				.24		-.52										
Total (T)	79			-.31			-.51	-.23									
PRE BEHAVIOR INV. Subscore 1	79								-.47		-.23	-.37	-.39	-.33			
" 2	79									-.48							
" 3	79								-.32	-.23	-.32	-.40	-.30	-.32			-.23
" 4	79								-.45		-.29	-.51	-.40	-.32	-.26	-.24	
" 5	79	.24							-.28			-.23	-.39				
" 6	79								-.39		-.28	-.29	-.38	-.36	-.22		
" 7	79											-.22	-.27		-.30		
" 8	79								-.24			-.30	-.22	-.26		-.29	
" 9	79																-.29
Median Class Income	75			-.25	-.24		-.24	-.34									
Teacher Exp. (1)	74									.24							
Teacher Sex (2)	78		.22														
Teacher Undergrad Major (4)	70			-.24			-.27	-.23									
Teacher Exp. Pre-school (9)	74			-.25		-.25		-.28		.36							
Age Variance	79						.31										
Proportion of Eng. Speaking	79				.29	-.27	-.37										
Proportion of Negro	79	-.28	-.25														
Proportion of Puerto Ricans	79													-.26	-.29		
Proportion of Mex.-American	79				-.34	.29	.42										
Proportion of Oriental	79															.32	
Proportion of Combined Non-White, Non-Negro	79				-.37	.26	.41										
Material Rt.	62									.26							
Non-interviewable Mothers	79				.28			.26				.24					

One of the first conclusions possible after examination of the preceding table of associations between difference scores on the Stanford-Binet, the Behavior Inventory, and the Preschool Inventory is that relatively few characteristics of teachers, classroom experiences, and school-community variations are associated with such class gains.

Because association, in and of itself, does not identify causation it is best to interpret any correlations cautiously. It is particularly important to examine cautiously correlations that are significant but of low numerical value. This means that the correlations reported, although useful as indices of possible areas for more controlled investigation, are only suggestive of such areas, not definitive.

Two areas seem worth some comment. First the cluster of negative associations between the pretest Preschool Inventory and class gains on the Preschool Inventory may indicate its usefulness as an entrance measure to Project Head Start classes. Low scores on the pretest were associated with high gains on the Preschool Inventory for the classes studied.

Second, the cluster of associations between the pretest Behavior Inventory and gains on itself may also indicate its usefulness for a similar purpose. However, because the Behavior Inventory must be completed after some few days of acquaintance with the individual child, this instrument may be more generally practically useful as an indicator to teachers about who should receive special attention during the program, once the child has been admitted.

TABLE 15.

Treatment Variables (Observed or Rated)
vs.
Difference on 3 Instruments
(All Entered Correlations Significant
at .05 or Greater—Two Tailed Test)
N = 61-63

		Stanford-Binet L-M		Preschool Inventory					Project Head Start Behavior Inventory								
	Observation	MA	I.Q.	1	2	3	4	T	1	2	3	4	5	6	7	8	9
Choice of Activity	1	.26	.25														
Crying or Pouting	1									.27	.28						
Joining Activity	1									.26			-.35		-.31		
Teaching Reading Aloud	1															.39	.28
Physical Affection	2									-.26		-.26					
Crying or Pouting	2	-.27	-.28			-.25											
Joining Activity	2								-.26				-.33			-.27	-.25
Child Laughing	2								.33			.26					
Child Hitting	2	-.28					.30						.25		.33		
Joining Activity	Av.1+2								-.26				-.37			-.25	
Child Yawning	Av.1+2						.28										
Child Laughing	Av.1+2								.31				.26				
Child Hitting	Av.1+2														.25		
Teacher-children Plan	1		.30														
Teacher Use Sarcasm	1								-.26		-.25			-.26			
Isolated Children	1	-.26	-.33														
Apathetic Class	1					-.33		-.25									
Exhilarated Class	1									-.27							
Acceptance of All	1		-.26														
Punishment	1	.27															
Teacher Talks Long Periods	1												-.26				
Apathetic Class	2					-.25											
Acceptance of All	2															-.27	-.26
Punishment	2										-.26						
Teacher-children Plan	1+2		.25														
Isolated Children	1+2		-.30														
Apathetic Class	1+2					-.42		-.35									
Acceptance of All	1+2		-.26														
Teacher Talks Long Periods	1+2											-.27	-.33	-.26			
RATING:																	
Emotion Climate	1				.32			.26				.30					
Organization	1	-.25															
Content	1	-.35	-.31														
Teacher	2	-.29	-.29														
Organization	2	-.37	-.29														
Content	2	-.31		-.28									.25				
Emotion Climate	1+2				.28			.27				.27					
Organization	1+2	-.31															
Content	1+2	-.38	-.31	-.30													

The preceding table reports significant correlations between several observed and rated treatment variables and difference scores on the three output instruments.

The lack of a large number or discernible pattern of significant correlations in the preceding table leads to the conclusion that only a few of the treatment variables observed or aspects of the classroom rated are indicative of areas for further fruitful investigation.

The negative correlations between ratings of the structured-unstructured organization of class activities and differences on the Stanford-Binet may be of interest. This is especially so when the negative correlations between ratings of the informational-playful aspect and differences on the Stanford-Binet are also considered. A tentative suggestion may be taken from these data that a controlled investigation should be made among highly formal, factual programs and less formal, play centered programs. The correlations here suggest that more formal, factual programs are not associated with as much gain on the Stanford-Binet as less formal, playful programs. Various other significant associations not reported in Tables 14 and 15 are contained in the total intercorrelation matrix. However, further examination of these when the input and treatment variables are equivocal is mostly of theoretical or descriptive interest. The purpose of this summary report is to indicate the main, important findings. Therefore, theoretical implications of the total matrix will be reported, as appropriate, elsewhere. The descriptive interest has probably been well served by the portion of this report dealing with various kinds of descriptive data.

Of what use is the information described and discussed above?

The judgmental nature of interpretation of information has been mentioned earlier in this report. However, it seems important in an investigation of this kind to present one or two possible interpretations. This may help to clarify the information presented and to stimulate discussion about the more fundamental questions that produced the study in the first place.

One of the major fundamental questions facing the Project Head Start research and evaluation division has been the question of whether or not the massive efforts of Project Head Start are having an effect on children. Obviously, no one study can answer this question definitively. Nevertheless, the information collected in this study indicates that positive, consistent and developmentally desirable effects were observed during the summer 1966 program. It is, of course, not possible to tell from the information collection design used the actual contribution of various possible sources of change to these overall observed effects.

A second major question of interest undoubtedly has been whether or not there were particular program variations which seemed to be more successful than others. The information presented on associations between various characteristics and pupil outcomes indicates only very tentatively and with large question marks the possibility that less formal, playful programs may lead to greater gains on one instrument. In addition, two other instruments seem most likely to predict gain on themselves under the undifferentiated effect of Project Head Start programs.

On the basis of the information presented it should be possible to bring into bear something more than subjective opinion to decisions on two major questions. These questions are:

1. Should summer Project Head Start programs be continued?
2. Should recommendations be made to local program directors about the nature and content of programs?

These questions (deliberately phrased in the language of value or choice decisions) are not answered by the information presented, but the information herein can aid in arriving at answers to these questions. No further justification seems necessary for scientific information collection than this role as aid to human choice behavior.

APPENDICES

Information Collection Forms
and Field Director's Manual

(Stanford-Binet—not included)

Overview of Head Start Evaluation Project

Classroom Study

A sample of 100 classrooms will be studied intensively. The sample will be derived from the selection of two classrooms in each of 50 centers. The sample was drawn so that centers were weighted according to their number of classrooms.

The study will involve testing all children in the 100 classrooms early in the summer program (pretest) and near the end of the program (posttest). Information about the center facilities and resources, and about the teachers will be collected by questionnaires. The involvement of parents will be determined by an interview with a parent of each child and completion of a simple interview record. Two observations will be made of the classroom activities and functioning, to be recorded on a form that will be provided. Test all children on the roster at the time for post-testing even though some may not have been enrolled during the period of pre-testing[*]

Responsibilities

The Field Director will be responsible for the data collection in one or more Head Start centers. He must be able to recruit and oversee the activities of several qualified test administrators. The major qualification of test administrators is that they be experienced in administration of the Stanford-Binet, Form L-M. It is desirable that they have had experience with preschool or primary grade children.

The Field Director should review the tests and data collection instruments with his staff so that they all are completely familiar with the materials. This manual and the directions incorporated in the instruments provide general and specific information about the use of each item.

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[*] Norms Study

Another objective of the summer 1966 Head Start evaluation project is to develop normative data on Head Start children for the Stanford-Binet, Form L-M and for two Head Start developed instruments: the Preschool Inventory and the Behavior Inventory. Norms for a national random sample and for subsamples for which there are adequate numbers of cases will be reported. The sample will be drawn so that only a small number of children in a class will be tested.

Confidentiality should be maintained as far as possible on all forms. Project Field Directors should stress the confidential nature of all information to all Project Personnel and all Center Personnel. In addition to the person administering the form, only the Project Field Director should be given access.

Test and survey material will be sent to the Field Director for distribution to his staff and the centers he is working with. He should assure that materials are collected and returned to ETS at the appropriate times.

Wherever it is possible, without jeopardizing the orderly securing of information, Project Personnel should accommodate to any special requests of Center Personnel.

ETS cannot provide Stanford-Binet kits, or record forms. We assume that test administrators will have or can borrow kits. ETS will reimburse the cost of record forms or booklets.

Field Directors will be asked to cooperate with OEO and the Bureau of the Census in distributing and picking up certain other forms as indicated on page 4.

Warm-up Session

Most of these children have had no experience with tests and may hesitate to respond. Therefore, we suggest that the initial testing session for each child be preceded by warm-up exercises such as:

1. (Place the ball and a black checker on the table)
   Which one of these things is bigger?
2. Pick up the ball and hold it up over your head.
3. Now put the ball on the table and roll it to me.
4. Can you close just one eye? Do it. Now open it.
5. Which will buy more, a penny or a nickel?

PROJECT MATERIALS *

Instrument	Week administered and subject(s)	Administered by (minimum level)	Estimated time	Disposition	Special notes
Stanford-Binet (1960) Short Form L-M	2-3 and 7-8 each child	Trained examiner—Project Personnel (Experience with preschool important)	20-40 minutes per child	Mail completed sets of record forms to ETS in 3rd and 8th week	Use Wright's method of abbreviation same examiner each administration
Preschool Inventory (Caldwell)	2-3 and 7-8 each child	Preschool, Primary, or other teacher who are Project Personnel	15-30 minutes per child	As above	In a class, complete Binets before starting Inventory. Same examiner each administration
Behavior Inventory (Zigler)	2-3 and 7 each child	Teacher in charge after briefing by Project Personnel	5-6 minutes per child	As above	
Classroom Observation Form	3 and 6-7 each class	Experienced Preschool, or Primary teacher, not from same district —Project Personnel	Full class session	Mail both observations to ETS in 8th week	Same observer both administrations
Teacher Information	6 each teacher in charge	Teacher in charge—Project Personnel can pick up immediately	3 minutes	Mail to ETS in 8th week	
Parent Interview	6-7 mother or female household head each child	Person or persons who can gain parent confidence—Project Personnel	10-15 minutes per parent	Mail to ETS in 8th week	Home administration most desirable—note deviations
Director's Report Form	10 each classroom	Project Field Director		Mail to ETS by 11th week	To be forwarded by ETS

* Materials for Classroom Study only — If Norms Study materials are to be used by your personnel, information thereon will follow.

NON-PROJECT MATERIALS BEING HANDLED BY PROJECT PERSONNEL

Instrument	Week administered and subject(s)	Administered by (minimum level)	Estimated time	Disposition	Special notes
Center Facilities and Resources Inventory	6 each center	Center Personnel		Mail to ETS in 8th week	To be forwarded by ETS
Medical/Dental Information	7 each child	Center medical personnel		Mail to ETS in 8th week	To be forwarded by ETS
Parent Participation Record	7 each class	Senior teacher		Mail to ETS in 8th week	To be forwarded by ETS
Class Resister	Early as possible each class triplicate alphabetized	Senior teacher	20 minutes	One form for class one form OEO/Census one mail to ETS	If class numbers are not yet assigned by Washington—Project Personnel assign them in coordination with Center Personnel

Stanford-Binet (1960) L-M

General Instructions

1. Examiners should discourage Center Personnel from using the title "doctor" in the presence of the children.
2. Examiners should be experienced with the Stanford-Binet and should have ability to establish easy rapport with preschool children.
3. Examiners not having recent experience with preschool children should arrange to test at least two non-sample preschool children before working with children from the sample.
4. Examiners should check Stanford-Binet kits carefully for all materials necessary for testing through age eight. A crayon or kindergarten pencil and a watch with a sweep second hand may be needed.
5. Examiners should carefully review the Terman/Merrill Manual (1960) pages 46 to 64, giving special attention to pages 53-54.
6. Use either Record Booklet or shorter form for recording answers.
7. Testing should be conducted with only the examiner and child present unless successful administration requires the presence of another.

Specific Instructions

1. Use the abbreviated form with Wright's method (see T/M Manual p. 61-2) in which all six tests are used to establish basal and ceiling levels. Note that when all six tests are used the weighting of each is less than the weights given when only starred tests are used.
2. It is suggested that examiners start with tests for age-level four and proceed in an alternating fashion toward the ceiling and basal levels in order that successes may be distributed throughout the testing period. When testing is completed, it is suggested that the child be given some simple task where success is virtually assured.

---

3. Where a test is spoiled in administration use TEST A (Alternate) as directed in the T/M Manual. If two or three tests are spoiled use first TEST A, then the lower numbered unstarred test, then the higher numbered unstarred test. Further spoilage of tests requires proration of credits. At the basal and ceiling level where six tests are used, the spoilage of more than one test requires proration.
4. If for one reason or another a child simply cannot be tested, the examiner should submit a record form in his name with a comment.
5. Above the child's name on the record form enter his identification number. Above his identification number enter in bold letters: ADMINISTERED IN ______________ showing English, Spanish or whatever language was used.
6. In addition to completing the information called for on the record form used, enter the child's MA and IQ in the spaces provided on the Perschool Inventory Student Information Sheet.
7. Every effort should be made to test every child.

FA 7

PRESCHOOL INVENTORY

Student Identification

Child's name				School	
Grant No.	Center No.	Class No.	Child No.	Examiner Name	Date

check one:

Boy ☐
Girl ☐

Age in Months

Child's major language: English ☐
Other ☐ Specify ____________

Race or cultural background

Negro ☐1
American Indian ☐2
Puerto Rican ☐3
Mexican American ☐4
Oriental ☐5
White ☐6
Other ☐7

Administration: National Sample ☐
Classroom Sample - first testing ☐
Classroom Sample - second testing ☐

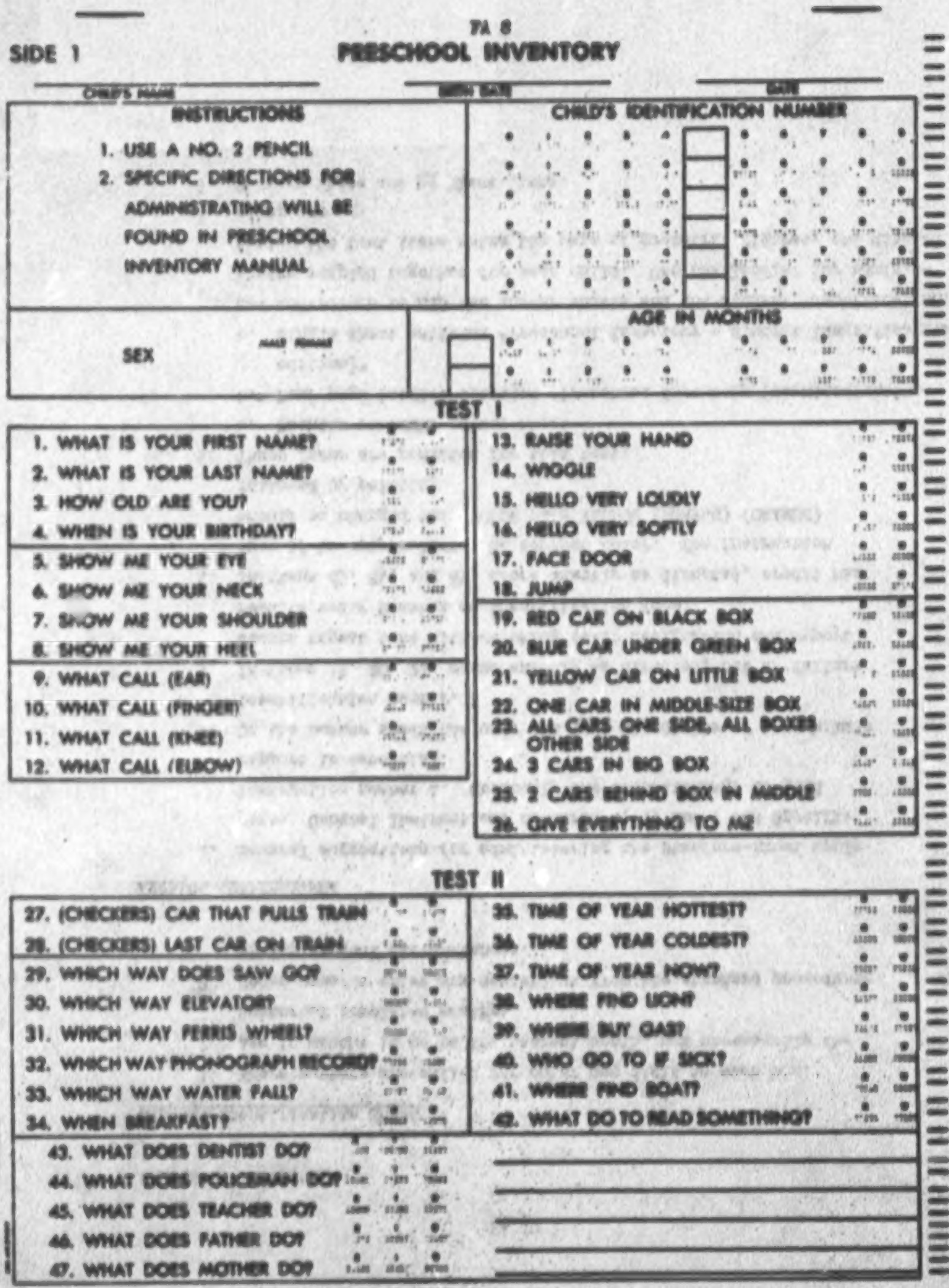
Stanford Binet - Form L-M Mental Age (Years | Months)

Stanford Binet - Form L-M IQ Score

Date of Stanford Binet administration ___ Month ___ Day 6 6 Year

Remarks: ____________

(The Preschool Inventory is distributed by Educational Testing Service, Princeton, N. J. 08540; and 1947 Center Street, Berkeley, Calif. 94704.)



FA 8

SIDE 1

PRESCHOOL INVENTORY

CHILD'S NAME ____ BIRTH DATE ____ DATE ____

INSTRUCTIONS

1. USE A NO. 2 PENCIL
2. SPECIFIC DIRECTIONS FOR ADMINISTRATING WILL BE FOUND IN PRESCHOOL INVENTORY MANUAL

CHILD'S IDENTIFICATION NUMBER

SEX MALE FEMALE

AGE IN MONTHS

TEST I

1. WHAT IS YOUR FIRST NAME?
2. WHAT IS YOUR LAST NAME?
3. HOW OLD ARE YOU?
4. WHEN IS YOUR BIRTHDAY?
5. SHOW ME YOUR EYE
6. SHOW ME YOUR NECK
7. SHOW ME YOUR SHOULDER
8. SHOW ME YOUR HEEL
9. WHAT CALL (EAR)
10. WHAT CALL (FINGER)
11. WHAT CALL (KNEE)
12. WHAT CALL (ELBOW)
13. RAISE YOUR HAND
14. WIGGLE
15. HELLO VERY LOUDLY
16. HELLO VERY SOFTLY
17. FACE DOOR
18. JUMP
19. RED CAR ON BLACK BOX
20. BLUE CAR UNDER GREEN BOX
21. YELLOW CAR ON LITTLE BOX
22. ONE CAR IN MIDDLE-SIZE BOX
23. ALL CARS ONE SIDE, ALL BOXES OTHER SIDE
24. 3 CARS IN BIG BOX
25. 2 CARS BEHIND BOX IN MIDDLE
26. GIVE EVERYTHING TO ME

TEST II

27. (CHECKERS) CAR THAT PULLS TRAIN
28. (CHECKERS) LAST CAR ON TRAIN
29. WHICH WAY DOES SAW GO?
30. WHICH WAY ELEVATOR?
31. WHICH WAY FERRIS WHEEL?
32. WHICH WAY PHONOGRAPH RECORD?
33. WHICH WAY WATER FALL?
34. WHEN BREAKFAST?
35. TIME OF YEAR HOTTEST?
36. TIME OF YEAR COLDEST?
37. TIME OF YEAR NOW?
38. WHERE FIND LION?
39. WHERE BUY GAS?
40. WHO GO TO IF SICK?
41. WHERE FIND BOAT?
42. WHAT DO TO READ SOMETHING?
43. WHAT DOES DENTIST DO?
44. WHAT DOES POLICEMAN DO?
45. WHAT DOES TEACHER DO?
46. WHAT DOES FATHER DO?
47. WHAT DOES MOTHER DO?

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PRESCHOOL INVENTORY

SIDE 2

DO NOT WRITE IN THIS AREA

CHILD'S IDENTIFICATION NUMBER

TEST III

48. HOW MANY EYES?
49. HOW MANY NOSES?
50. HOW MANY HANDS?
51. HOW MANY TOES?
52. HOW MANY WHEELS-CAR?
53. HOW MANY WHEELS-BICYCLE?
54. HOW MANY WHEELS-TRICYCLE?
55. HOW MANY WHEELS-WHEELBARROW?
56. HOW MANY WHEELS-ROW BOAT?
57. COUNT (TO 5)
58. HOW MANY CORNERS, PAPER
59. 2 & 8 CHECKERS, WHICH MORE
60. 6 & 6 CHECKERS, WHICH MORE
61. 2 & 8 CHECKERS, WHICH FEWER
62. POINT TO MIDDLE ONE
63. POINT TO FIRST ONE
64. POINT TO LAST ONE
65. POINT TO SECOND ONE
66. POINT TO NEXT-TO-LAST

TEST IV

67. DRAW A LINE
68. DRAW A CIRCLE
69. DRAW A SQUARE
70. DRAW A TRIANGLE
71. WHICH MOST LIKE WHEEL
72. WHICH MOST LIKE TENT
73. WHICH MOST LIKE STICK
74. BIGGER, BALL OR BICYCLE
75. BIGGER, TREE OR FLOWER
76. SLOWER, CAR OR BICYCLE
77. HEAVIER, BRICK OR SHOE
78. HEAVIER, FEATHER OR FORK
79. WHAT COLOR IS: (RED CRAYON)
80. WHAT COLOR IS: (BLACK CRAYON)
81. SAME COLOR AS THE SKY
82. SAME COLOR AS THE NIGHT
83. COLOR CIRCLE YELLOW
84. COLOR SQUARE PURPLE
85. COLOR TRIANGLE ORANGE

EXAMINER'S NAME ____________________

OTHER ____________________

A.
B.
C.
D.
E.

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PRESCHOOL INVENTORY

Student Identification Sheet

1. Where numbers are called for enter one digit in each box.
2. Age in months is to be the nearest month, not necessarily the number of completed months.
3. Under remarks enter any deviations from the standard procedures or any unusual circumstances.

Testing Instructions

1. Several suggestions for administering the Stanford-Binet apply here: General Instructions numbered 1, 5, and 7 and Specific Instruction number 4. Obviously the establishment of good rapport is essential.
2. On the answer sheet use only the last six digits of the child's identification number.
3. In items 19, 20, 21, score exactly as directed, but if failure occurs repeat test without using color designation and report results under Remarks on identification form.
4. In items 83, 84, and 85, score exactly as directed, credit him even if he only selects the correct color. The instruction should be changed to: COLOR THIS YELLOW (PURPLE) (ORANGE) followed by pointing.
5. Three forms are provided for this test:
   a. Machine scorable answer sheet
   b. Four page leaflet entitled "Preschool Inventory (standardization edition)"
   c. Single sheet entitled "Preschool Inventory - Student Identification"

   Use and return to ETS the answer sheets and the Student Identification sheets stapled together for each child. Use the leaflet for administering the test items using the page of geometric figures, and discard after use.
6. Be sure there are no blank items.

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FA 11

Classroom Observation Form

1. Observers should thoroughly familiarize themselves with the form and, if possible, go through a practice session before dealing with the sample classroom.
2. Legibility of writing where free comments are elicited is extremely important. Observers should be encouraged to transcribe in typing to a fresh form if legibility is a problem.
3. It is important that the same observer make both observations of the classroom involved. Where this cannot be arranged, notation should be made on the cover sheet of the form used in the second administration.
4. If, for any reason, it seems desirable to omit the teacher's name from the information given on the cover sheet, the observer should devote extra care in being sure the class identification number is correct.

BEHAVIOR INVENTORY

TEACHER INFORMATION FORM

These forms are extremely simple and need no discussion. Be sure that each teacher answers every question. There should be no blanks.

Field Director's Report Form

Specific instruction on the completion of this form will be forwarded with it.

Non-Project Forms - Class Register, Parent Participation Record, Medical Dental Information Form, Center Facilities and Resources Inventory.

Field Directors' responsibilities for these forms are primarily those of distribution and collection. Instructions appear on page 4 of this paper. The Class Register, however, will be indispensable to the Project. Field Directors should forward a copy of the Class Register to ETS as soon as possible after it is completed.

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ETS

FA 12
TEACHER INFORMATION

Grant No.	Center No.	Class No.

Teacher's Name ____________ Date ____________

Address ____________

Circle the number of one answer to each question.

1. How many years of teaching experience have you had?
   1 First experience
   2 Some prior experience, but less than five years
   3 More than five years experience

2. What is your sex?
   1 Male
   2 Female

3. What is the highest level of education you have received?
   1 High school
   2 Some college
   3 Bachelor's degree
   4 Some graduate work
   5 Master's degree or above

4. If you attended college, what was your undergraduate major?
   1 Elementary education
   2 Preschool education
   0 Other area (specify) ____________

5. If you did graduate work, what was your major?
   1 Elementary education
   2 Preschool education
   0 Other area (specify) ____________

6. How many Head Start classes do you teach?
   1 One
   2 More than one

7. Have you worked with Head Start before this summer?
   1 No
   2 Yes, but not as teacher-in-charge
   3 Yes, as teacher-in-charge

8. Do you live in the neighborhood the center serves?
   1 No
   2 Yes

9. How much teaching experience have you had with preschoolers?
   1 First experience
   2 Some prior experience but less than five years
   3 More than five years experience

10. How long have you worked with educationally disadvantaged children?
    1 First experience
    2 Some prior experience but less than five years
    3 More than five years experience

11. What special training have you had for the Head Start program?
    1 None
    2 Local training program
    3 6-day university or college sponsored training program
    4 8-week university or college sponsored training program
    0 Other (specify) ____________

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Bureau of the Budget No. BOB 116-R063

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CAP-HS Form 37
[illegible]

OFFICE OF ECONOMIC OPPORTUNITY
PROJECT HEAD START

BEHAVIOR INVENTORY
SUMMER

Child's name			School		
Grant No.	Center No.	Class No.	Child No.	Examiner's Identification	Date

Present week of center's operation

INSTRUCTIONS

Please indicate as accurately as possible how this child behaves by marking one of the four responses to each question. Base your response to every item on your personal observation and experience with the child.

	Very much like 1	Somewhat like 2	Very little like 3	Not at all like 4
1. Is usually carefree; rarely becomes frightened or apprehensive				
2. Is sympathetic, considerate, and thoughtful toward others				
3. Is easily distracted by things going on around him				
4. Is very suggestible; lets other children boss him around				
5. Talks eagerly to adults about his own experiences and what he thinks				
6. Is unduly upset or discouraged if he makes a mistake or does not perform well				
7. Often keeps aloof from others because he is uninterested, suspicious, or bashful				
8. Defends or praises his own efforts				
9. Is confident that he can do what is expected of him				
10. Is jealous; quick to notice and react negatively to kindness and attention bestowed upon other children				
11. Is methodical and careful in the tasks that he undertakes				
12. Is rarely able to influence other children by his activities or interests				
13. Tries to figure out things for himself before asking adults or other children for help				
14. Greatly prefers the habitual and familiar to the novel and the unfamiliar				
15. Appears to trust in his own abilities				
16. Has little respect for the rights of other children; refuses to wait his turn, usurps toys other children are playing with, etc.				
17. Seems disinterested in the general quality of his performance				
18. Responds to frustration or disappointment by becoming aggressive or enraged				
19. Is excessive in seeking the attention of adults				
20. Sticks with a job until it is finished				
21. Goes about his activities with a minimum of assistance from others				
22. Is constricted, inhibited, or timid; needs to be urged before engaging in activities				
23. Is even-tempered, imperturbable; is rarely annoyed or cross				
24. Is reluctant to talk to adults; responds verbally only when urged				
25. Works earnestly at his classwork or play; does not take it lightly				
26. Is often quarrelsome with classmates for minor reasons				

Please continue on reverse side

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	Very much like 1	Somewhat like 2	Very little like 3	Not at all like 4
27. Does not need attention or approval from adults to sustain him in his work or play				
28. When faced with a difficult task, he either does not attempt it or gives up very quickly				
29. Does not like to be interrupted when engaged in demanding activities, e.g., puzzles, painting, constructing things				
30. Welcomes changes and new situations; is venturesome, explores, and generally enjoys novelty				
31. Calmly settles difficulties that arise without appeal to adults or others				
32. Is reluctant to use imagination; tends not to enjoy "make-believe" games				
33. Likes to talk with or socialize with the teacher				
34. Often will not engage in activities unless strongly encouraged				
35. Is eager to inform other children of the experiences he has had				
36. Emotional response is customarily very strong; over-responds to usual classroom problems, frustrations, and difficulties				
37. Is uncooperative in group activities				
38. Is usually polite to adults; says "Please," "Thank you," etc.				
39. Asks many questions for information about things, persons, etc. *(Emphasis here should be on questions prompted by genuine curiosity rather than bids for attention.)*				
40. Usually does what adults ask him to do				
41. Requires the company of other children; finds it difficult to work or play by himself				
42. Responds to frustration or disappointment by becoming sullen, withdrawn, or sulky				
43. Demonstrates imaginativeness and creativity in his use of toys and play materials				
44. Insists on maintaining his rights, e.g., will not yield his place at painting, or at the carpentry bench, etc.; insists on getting his turn on the slide or in group games, etc.				
45. Is wanted as a playmate by other children				
46. Is lethargic or apathetic; has little energy or drive				
47. Has a tendency to discontinue activities after exerting a minimum of effort				
48. Is generally a happy child				
49. Approaches new tasks timidly and without assurance; shrinks from trying new things				
50. What he does is often imitated by other children				

DO NOT MARK IN THIS SPACE

OFFICE OF ECONOMIC OPPORTUNITY

PROJECT HEAD START EVALUATION -- 1966

Classroom Observation Form

Instructions

Classroom observation for Head Start Evaluation 1966 is extremely important. In a literal sense you are the eyes and ears for the Evaluation team. You are asked to react as an individual to your experiences, but less than a full attempt at objectivity would defeat the purposes of evaluation as well as, ultimately, the purposes of Head Start.

General. When first reporting to a Head Start center for an observation present your credentials to whoever is in charge of the center. Let this person direct you to the proper classroom. Take your time and follow the schedule of the center. After you have been observing for a few minutes and feel comfortable in the classroom, begin to collect answers to the questions on the inside of this form.

Specific. Each of the observation activities has specific instructions stated or implied. You should read over the form carefully before reporting for your first observation.

Fill In The Information Below

Grant No. ☐☐☐☐ Center No. ☐☐☐ Class No. ☐☐

Director of Center ________________ Date of Visit ____________

Address of Center ________________________________

Teacher's name ________________ Number of Aides (helpers in classroom) ________

Number of Boys ______ Number of Girls ______ General Description of classroom facility and materials: (overall) ________________

(size of room) ________________

(condition of room) ________________

(major materials present in room) ________________

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☐☐☐☐☐☐☐☐

On this page you are asked to record activities that you see. These may be consecutive or going on at the same time. This should be done as simply and as accurately as you can. In addition, you are asked to record "critical" or memorable incidents of the type you might discuss over coffee with a friend. Attempt to record at least one incident in the "critical" section. In both records be brief but long enough to be clear.

What is going on? (complete while in classroom)

1st activity ________________ Number participating ______ Approximate length in minutes ______

2nd activity ________________ No. part. ____ Length ____

3rd activity ________________ No. part. ____ Length ____

4th activity ________________ No. part. ____ Length ____

5th activity ________________ No. part. ____ Length ____

6th activity ________________ No. part. ____ Length ____

7th activity ________________ No. part. ____ Length ____

8th activity ________________ No. part. ____ Length ____

9th activity ________________ No. part. ____ Length ____

10th activity ________________ No. part. ____ Length ____

Critical or memorable incidents. (complete after leaving classroom but note key words to help remember details)

1. ________________________________

2. ________________________________

3. ________________________________

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Spot Check on Classroom Behaviors

For each activity you have recorded on the opposite page make a tally each time the described behavior below occurs during that activity. When a new activity begins, tally under the number for that activity.

Do you see ---	Activity Number									
	1	2	3	4	5	6	7	8	9	10
a child showing lack of interest in what is going on in the classroom?										
a child making a choice of activities or participation?										
a teacher or aide cuddle or pat or hug a child?										
a child crying or pouting?										
a child told not to talk so much or to stop talking?										
a child encouraged to talk or to continue and expand a story or idea?										
a child joining an activity that another child has begun?										
a child yawning or resting when it is not rest period?										
a child laughing out loud?										
a child hitting another child?										
a teacher (or aide) reading aloud to a student(s)?										
a child interrupted by the teacher or aide when he is speaking?										
	1	2	3	4	5	6	7	8	9	10
List other significant behaviors and tally if desired										

Each of the descriptions below can only be answered after you have completed your entire observation. Please decide on a yes or no answer or indicate why you have not done so.

Did you see ---

teacher and children plan and complete some activity?
yes no ______

periods of time when no one seemed to know what to do?
yes no ______

attention to isolated children?
yes no ______

the teacher use sarcasm or ridicule in talking to children?
yes no ______

children who did not talk to anyone as far as you noticed?
yes no ______

opportunities for children to speak before whole group or small group of other children?
yes no ______

a classroom that could be described as apathetic?
yes no ______

a classroom that could be described as exhilarated or excited?
yes no ______

evidence that each child felt accepted in the class?
yes no ______

a teacher punish a child or the class with words or actions?
yes no ______

children talking to each other spontaneously and often?
yes no ______

teacher or aide spending long periods talking, telling, directing the children while the children said nothing much?
yes no ______

(space to add own description)

This page should be completed after your visit to the Center.

Assuming that anything can be improved no matter how it rates at present, if you had to improve this particular Head Start Class, what would you recommend?

possible areas

Emotional Environment ______

Organization and Structure ______

Content and activities ______

Write a brief paragraph summarizing your impressions of the teacher of this class. Mention both strengths and weaknesses -- as far as you can tell from a brief visit.

Summative rating scales. Rank this class on the following scales. Use an X.

General emotional climate

highly supportive	generally supportive	neither supportive nor unsupportive	generally unsupportive	highly unsupportive

General organization of activities

highly structured	generally structured	about equally structured-unstructured	generally unstructured	highly unstructured

General content of activities

highly stress informational aspects	generally stress informational aspects	about equally informational and playful	generally stress playful aspects	highly stress playful aspects

Final comments or additions to summarize observation. ______

______
your signature

Parent Interview

Toward the end of the Project Head Start program, parents of the pupils in the class being studied will be interviewed. The Parent Interview form contains instructions for conducting the interview. The female head of the household should be interviewed; if there is no female head then speak with the male head of the household. Make at least three attempts to obtain an interview, unless an earlier attempt clearly indicates that there can be no interview.

Interviewers need not have the qualifications of test administrators. In fact, experience last summer indicates that people living in the neighborhood, or of similar ethnic and social status to the neighborhood, may produce better interview results than professional or academic people. You may find it appropriate to recruit interviewers with the help of Head Start or other OEO related organizations.

Non-professional interviewers must be instructed in general interviewing procedures and allowed to become thoroughly familiar with the form and instructions.

The interview will be short and will bring up no embarrassing or controversial questions. If interviewers can gain entry and establish rapport, they should have no difficulty in securing the required information. Note that the questions are phrased so as to ask about the Head Start program rather than about the parent or family.

It is important that this interview be completed in a face-to-face interview in the child's home. If variation must be made from this, the details should be noted under comments.

In some cases the interviewer may find access to the parent facilitated by the presence of someone else well-known to the family.

If there are two children of the family in the same class, fill out an interview sheet for each child.

PARENT INTERVIEW

Child's Name____________________

Address____________________

Interviewer____________________

Record of Calls	Time	Date
1		
2		
3		

Grant No. Center No. Class No. Child No.

☐☐☐☐☐☐☐☐☐☐

Head Start Center____________________

Child's Teacher's Name____________________

Person Interviewed:

Mother ☐

Stepmother ☐

Other____________________

INSTRUCTIONS TO INTERVIEWER

1. Interview the child's mother, stepmother, or other female head of the household. Make as many as three calls in order to obtain the interview. Turn in a form for each child even if the interview cannot be obtained on the third call or if the parent refuses to respond; of course, in such cases, only the information on the first page of the form will be completed.
2. Throughout the interview, the orientation should be toward finding out about the center, not the parent. Be friendly and informal. Record responses as unobtrusively as possible.
3. The wording of the questions is not rigid. Reword and repeat as necessary, keeping the intent of the question, in order to communicate with the interviewee and secure a valid answer.
4. Choices given after the questions are for you to use in classifying the interviewee's answers; these choices should not be read to the interviewee. Try to obtain a full response to each question, and then code it where possible or fill in the "other" blank.
5. Immediately after the interview, record any comments which might bear on interpretation of the interview record--refusal to answer any or all questions, disturbing interruptions, etc.
6. All scoring should be done after you leave the interviewee. Circle the appropriate score (usually 0 or 1) for each question.
7. In order to score some responses for accuracy (e.g., whether child has had a dental examination, meals and snacks), you will, of course, need to check with the teacher in the child's Head Start class.

Type of introduction to be used with interviewee:

I'm (name of interviewer), working for (R and D or other service center). We are trying to find out more about the Head Start centers in this area, and we are calling on a number of parents to get information about the (name) Center. I understand that your child, (child's name), is going there. Would you mind answering a few questions about this center?

Comments by interviewer (to be recorded following interview, see item 5 above):

____

____

____

____

____

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Interview	Scoring	
1. As part of the Head Start program, did (child's name) have a medical examination? no___ yes___ don't know___	1. Inaccurate or don't know Accurate	0 1
2. As part of the Head Start program, did (child's name) have a dental examination? no___ yes___ don't know___	2. Inaccurate or don't know Accurate	0 1
3. a. As part of the Head Start program, did (child's name) take any trips in the community? no___ yes___ don't know___ b. If yes, where was one place he (she) went?___	3. Inaccurate or don't know Accurate, including answer to b if yes is accurate for a	0 1
4. How many children are in (child's name)'s class?___ don't know___	4. Very inaccurate or don't know Close (within 3)	0 1
5. a. Does (child's name) talk to you about what he (she) does at Head Start? no___ yes___ b. If yes, what was the last thing he (she) told you about?___	5. No, or yes without answer to b Yes and any reasonable answer to b	0 1
6. Have you talked with any of (child's name)'s teachers about him (her)? no___ yes___	6. No Yes	0 1
7. Have you talked with any Head Start social workers or counselors about (child's name)? no___ yes___	7. No Yes	0 1
8. Have you talked with any Head Start medical workers (nurse, dentist, doctor) about (child's name)? no___ yes___	8. No Yes	0 1
9. a. Have you talked to anyone else, such as your relatives or friends, about (child's name)'s being in Head Start? no___ yes___ b. If yes, who?___	9. No, or yes without answer to b Yes, mentioning a name or relation in answer to b	0 1
10. What is the name of (child's name)'s Head Start teacher? ___ don't know___	10. Wrong or don't know Right or close	0 1

FA 22

Interview	Scoring	
11. Does (child's name) get any meals or snacks at the Head Start center? no___ yes, one meal or snack___ yes, more than one meal or snack___ don't know___	11. Inaccurate or don't know Accurate	0 1
12. a. Have you ever been to the Head Start center? no___ yes___ b. If no, would you have liked to visit the center? no___ yes___ c. If yes (to 12a), for what purpose did you go to the center? work at center (aide, help on trips, etc.)___ participate in educational program for parents___ visit child's classroom___ take child or go get him (her)___ attend social meeting___ for child's medical or dental examination___ other___	12. No to a and b Yes to b Any positive answer to c except work at center Work at center (in answer to c)	0 1 2 3
13. a. Do you notice any differences in (child's name) since he (she) started to Head Start? no___ yes___ b. If yes, what kinds of differences? Causes more trouble at home___ Causes less trouble at home___ Speaks better___ More self-confidence___ Gets along better with other children___ Better able to do things on his own___ Interested in new things___ Other___	13. No, or yes without answer to b Yes and any answer to b	0 1
14. a. Has Head Start made any changes in your life--apart from changes in (child's name)? no___ yes___ b. If yes, what kinds of changes? Made new friends___ Started taking more trips___ Learned more about raising children___ Got help from some social agency___ Started reading more___ Other___	14. No, or yes without answer to b Yes and any answer to b	0 1

Go on to the next page.

Interview

15 a. Do you have other children who are not in Head Start?

no___ yes, younger___ yes, older___

yes, younger and older___

b. If no, if you had other children, would you want them to go to Head Start?

no___ yes___

c. If yes, younger, do you hope they (he, she) can go to Head Start?

no___ yes___

d. If yes, older, do you wish they (he, she) could have gone to Head Start?

no___ yes___

e. If yes, younger and older, do you hope the younger one (ones) can go to Head Start?

no___ yes___

Scoring

15. No to b, c, d, or e	0
Yes to b, c, d, or e	1

Sampling Procedures

There were 24,000+ classrooms in 1,437 units, from one to more than 100 classrooms per unit. A random sample of units would over represent small centers. A random sample with units being weighted in proportion to number of classrooms was decided upon. The following procedure was used to identify 50 centers.

1. Shuffle the available lists of grantees.
2. Enter tables of random numbers to get a two digit number.
3. Count from top of list stack to page corresponding to number from two.
4. Make that page the first page by placing preceding pages at bottom of stack.
5. Get initial list of units to furnish classrooms by identifying the unit containing every 400th classroom.
6. This will yield a list of approximately 60 units.
7. Delete Alaska and Hawaii from list.
8. Contact units to determine if centers begin programs between July 1 and 15 and if they operate for eight weeks. Delete units not complying.
9. If fewer than 50 units remain on list, repeat the procedure from steps 1 through 8.
10. If more than 50 units remain, take first 50 as sample.

All centers then were asked to name two classrooms (numbers one and two on their list of all classes) to the study being conducted.

FA 25

HEAD START CENTERS AND PROJECT CONSULTANTS

Auburn, Alabama	William D. Spears
Phenix City, Alabama	William D. Spears
Prairie, Alabama	Thomas Staton
Fayetteville, Arkansas	Wilson Kimbrough
Los Angeles, California (2)	Philip Montez
Sacramento, California (2)	William Rohwer
Gainesville, Georgia	Warren Findley, Paul L. Wood
Waynesboro, Georgia	Warren Findley, Paul L. Wood
Waukegan, Illinois	James A. Mooney
South Bend, Indiana	N. J. Pallone
Baton Rouge, Louisiana (2)	H. E. Chesteen, Jr., Robert A. Perkins
Benton Harbor, Michigan	N. J. Pallone
Detroit, Michigan (2)	Norman Kagan
Duluth, Minnesota	Charles W. McKain
Royalton, Minnesota	Albert Luker
Grenada, Mississippi	Dorothy Rice
New York, New York (2)	Lillian Restaino
Snow Hill, North Carolina	John Clarke
Caldwell, Ohio	Edwin Titus
Cleveland, Ohio (2)	Melvin E. Allerhand
Dayton, Ohio	Charles H. Scheidler
Ironton, Ohio	Elizabeth Wolf
Nashua, New Hampshire	Robert Duryea
Uhrichsville, Ohio	Katherine Sober
Columbia, South Carolina	Lawrence Giles
Rockhill, South Carolina	Lawrence Giles
Monterey, Tennessee	Hoyle D. Lawson
Beaumont, Texas	Dale L. Johnson
George West, Texas	J. Pierce-Jones
Hearne, Texas	J. Pierce-Jones
Navasota, Texas	J. Pierce-Jones
San Antonio, Texas (2)	J. Pierce-Jones, Robert Boger
Tyler, Texas	John T. Lewis
Christiansburg, Virginia	Robert D. Childers
Salem, Virginia	Robert D. Childers
Seattle, Washington (2)	Audrey R. Holliday
Charleston, West Virginia	Elizabeth Wolf
Fairmont, West Virginia	Philip Comer
Huntington, West Virginia	Elizabeth Wolf

Stanford-Binet (short form)

(Mental Age and I.Q. Class Means)

TA 1

Stanford-Binet, Mental Age

Pretest Means by Classroom

```
CASES PROCESSEC  =              79
MINIMUM VALLE    =              45.5CCC
MAXIMUM VALLE    =              8C.4CCC
SUM OF SCORES    =            4719.4573
SUM SGC. SCORES  =          285366.2813
MEAN             =              59.74CC
STNC. CEV. (N)   =               6.5854
STNC. DEV. (N-1) =               6.6275
```

Posttest Means by Classroom

```
CASES PROCESSED  =              79
MINIMUM VALLE    =              49.7273
MAXIMUM VALLE    =              84.4CCC
SUM OF SCORES    =            5C15.1586
SUM SGC. SCORES  =          321984.6757
MEAN             =              63.483C
STNC. DEV. (N)   =               6.7573
STNC. CEV. (N-1) =               6.8CC5
```

$r_{pre-post} = .96$

Difference Means by Classroom

```
SCORE INTERVALS          F   PCT      CF PIC-P

 6.5C1 -    7.5CC         7   8.9      79  95.6
 5.5C1 -    6.5CC         7   8.9      72  86.7
 4.5C1 -    5.5CC        12  15.2      65  74.7
 3.5C1 -    4.5CC        15  19.0      53  57.6
 2.5C1 -    3.5CC        16  2C.3      38  38.0
 1.5C1 -    2.5CC        16  2C.3      22  17.7
 0.5C1 -    1.5CC         4   5.1       6   5.1
-0.499 -    C.5CC         1   1.3       2   1.9
-2.499 -   -1.5CC         1   1.3       1   0.6
```

```
CASES PROCESSEC  =              79
MINIMUM VALLE    =              -2.CCCC
MAXIMUM VALUE    =               7.3846
SUM OF SCORES    =             295.7012
SUM SGC. SCORES  =            1371.7619
MEAN             =               3.7431
STNC. CEV. (N)   =               1.8313
STNC. CEV. (N-1) =               1.843C
```

TA 2

Stanford-Binet, I.Q.

Pretest Means by Classroom

```
CASES PROCESSEC  =              79
MINIMUM VALLE    =              67.2143
MAXIMUM VALLE    =             1C6.7CCC
SUM OF SCORES    =            6705.173C
SUM SGC. SCORES  =          573831.C938
MEAN             =              84.8756
STNC. DEV. (N)   =               7.7341
STNC. DEV. (N-1) =               7.7835
```

Posttest Means by Classroom

```
CASES PROCESSEC  =              79
MINIMUM VALLE    =              72.9C91
MAXIMUM VALLE    =             11C.5CCC
SUM OF SCORES    =            7C65.3812
SUM SGC. SCORES  =          636956.5156
MEAN             =              89.4352
STNC. CEV. (N)   =               8.CC53
STNC. CEV. (N-1) =               8.C564
```

$r_{pre-post} = .93$

Difference Means by Classroom

```
SCORE INTERVALS          F   PCT      CF PIC-F

12.5C1 -   13.5CC         1   1.3      79  99.4
10.5C1 -   11.5CC         2   2.5      78  97.5
 9.5C1 -   1C.5CC         1   1.3      76  95.6
 8.5C1 -    9.5CC         2   2.5      75  93.7
 7.5C1 -    8.5CC         9  11.4      73  86.7
 6.5C1 -    7.5CC         5   6.3      64  77.8
 5.5C1 -    6.5CC         7   8.9      59  70.3
 4.5C1 -    5.5CC        11  13.9      52  58.9
 3.5C1 -    4.5CC        11  13.9      41  44.9
 2.5C1 -    3.5CC        1C  12.7      3C  31.6
 1.5C1 -    2.5CC         8  1C.1      2C  20.3
 0.5C1 -    1.5CC         8  1C.1      12  10.1
-0.499 -    C.5CC         2   2.5       4   3.8
-1.499 -   -C.5CC         1   1.3       2   1.9
-3.499 -   -2.5CC         1   1.3       1   0.6
```

```
CASES PROCESSEC  =              79
MINIMUM VALLE    =              -2.8CCC
MAXIMUM VALUE    =              13.3C77
SUM OF SCORES    =             36C.2C81
SUM SGC. SCORES  =            2331.8315
MEAN             =               4.5596
STNC. DEV. (N)   =               2.9541
STNC. DEV. (N-1) =               2.973C
```

Technical Appendix B

Project Head Start

Behavior Inventory

(9 Subscores on
Behavior Description Inventory)

TB 1

Behavior Inventory

Pretest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     17.1818
MAXIMUM VALUE    =     29.0000
SUM OF SCORES    =   1799.2391
SUM SQD. SCORES  =  41417.7930
MEAN             =     22.7752
STND. DEV. (N)   =      2.3595
STND. DEV. (N-1) =      2.3745
```

Posttest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     20.4545
MAXIMUM VALUE    =     30.1875
SUM OF SCORES    =   1905.9046
SUM SQD. SCORES  =  46353.1050
MEAN             =     24.1254
STND. DEV. (N)   =      2.1713
STND. DEV. (N-1) =      2.1852
```

Difference Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     -2.0000
MAXIMUM VALUE    =      7.3846
SUM OF SCORES    =    106.6654
SUM SQD. SCORES  =    376.5731
MEAN             =      1.3502
STND. DEV. (N)   =      1.7157
STND. DEV. (N-1) =      1.7267
```

Subscore 1.

Pretest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     12.2308
MAXIMUM VALUE    =     18.0000
SUM OF SCORES    =   1249.5641
SUM SQD. SCORES  =  19879.3866
MEAN             =     15.8173
STND. DEV. (N)   =      1.2049
STND. DEV. (N-1) =      1.2126
```

Posttest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     12.6923
MAXIMUM VALUE    =     19.1250
SUM OF SCORES    =   1263.7192
SUM SQD. SCORES  =  20310.2395
MEAN             =     15.9964
STND. DEV. (N)   =      1.0979
STND. DEV. (N-1) =      1.1049
```

Difference Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     -2.0000
MAXIMUM VALUE    =      2.2500
SUM OF SCORES    =     14.1551
SUM SQD. SCORES  =     64.2017
MEAN             =      0.1792
STND. DEV. (N)   =      0.8835
STND. DEV. (N-1) =      0.8891
```

Subscore 2.

TB 2

Behavior Inventory

Pretest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     17.6000
MAXIMUM VALUE    =     30.0000
SUM OF SCORES    =   1726.7901
SUM SQD. SCORES  =  38108.7446
MEAN             =     21.8581
STND. DEV. (N)   =      2.1477
STND. DEV. (N-1) =      2.1614
```

Posttest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     18.1000
MAXIMUM VALUE    =     29.3000
SUM OF SCORES    =   1824.6355
SUM SQD. SCORES  =  42557.0430
MEAN             =     23.0967
STND. DEV. (N)   =      2.2894
STND. DEV. (N-1) =      2.3040
```

Difference Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     -2.1111
MAXIMUM VALUE    =      7.2308
SUM OF SCORES    =     97.8455
SUM SQD. SCORES  =    354.5052
MEAN             =      1.2386
STND. DEV. (N)   =      1.7185
STND. DEV. (N-1) =      1.7295
```

Subscore 3.

Pretest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =      6.7143
MAXIMUM VALUE    =     13.4000
SUM OF SCORES    =    814.4072
SUM SQD. SCORES  =   8521.5849
MEAN             =     10.3090
STND. DEV. (N)   =      1.2644
STND. DEV. (N-1) =      1.2725
```

Posttest Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =      7.6667
MAXIMUM VALUE    =     13.2308
SUM OF SCORES    =    8[illegible]0.3231
SUM SQD. SCORES  =   92[illegible].8164
MEAN             =     10.7636
STND. DEV. (N)   =      1.1708
STND. DEV. (N-1) =      1.1783
```

Difference Means by Classroom

```
CASES PROCESSED  =          79
MINIMUM VALUE    =     -2.0000
MAXIMUM VALUE    =      3.8571
SUM OF SCORES    =     35.9159
SUM SQD. SCORES  =    105.4532
MEAN             =      0.4546
STND. DEV. (N)   =      1.0621
STND. DEV. (N-1) =      1.0689
```

Subscore 4.

TB 3

Behavior Inventory

Pretest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALUE     =     18.6667
MAXIMUM VALLE     =     30.0000
SUM OF SCORES     =   1896.1760
SUM SCC. SCORES   =  45943.9697
MEAN              =     24.0022
STNC. CEV. (N)    =      2.3372
STNC. CEV. (N-1)  =      2.3521
```

Posttest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =     19.0000
MAXIMUM VALUE     =     29.0769
SUM OF SCORES     =   1929.0569
SUM SCC. SCORES   =  47508.4053
MEAN              =     24.4184
STNC. CEV. (N)    =      2.2610
STNC. CEV. (N-1)  =      2.27[illegible]4
```

Difference Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =     -2.7692
MAXIMUM VALLE     =      5.2500
SUM OF SCORES     =     32.8809
SUM SCC. SCORES   =    220.8962
MEAN              =      0.4162
STNC. CEV. (N)    =      1.6196
STNC. CEV. (N-1)  =      1.6299
```

Subscore 5.

Pretest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =      9.5385
MAXIMUM VALLE     =     14.7000
SUM OF SCORES     =    947.0558
SUM SQC. SCORES   =  11442.0868
MEAN              =     11.9880
STNC. CEV. (N)    =      1.0598
STNC. CEV. (N-1)  =      1.0666
```

Posttest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALUE     =     10.2222
MAXIMUM VALUE     =     14.9000
SUM OF SCORES     =    963.060[illegible]
SUM SCC. SCORES   =  11841.84[illegible]
MEAN              =     12.1[illegible]
STNC. CEV. (N)    =      1.[illegible]7
STNC. CEV. (N-1)  =      1.1[illegible]
```

Difference Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =     -2.0000
MAXIMUM VALLF     =      3.3077
SUM CF SCORES     =     16.0045
SUM SQC. SCORES   =     73.3803
MEAN              =      0.2026
STNC. CEV. (N)    =      0.9422
STNC. CEV. (N-1)  =      0.9483
```

Subscore 6.

TB 4

Behavior Inventory

Pretest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =      9.1000
MAXIMUM VALLE     =     15.2000
SUM OF SCORES     =    917.6763
SUM SCC. SCORES   =  10763.2721
MEAN              =     11.6162
STNC. CEV. (N)    =      1.1441
STNC. CEV. (N-1)  =      1.1514
```

Posttest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =      9.0000
MAXIMUM VALLE     =     19.0000
SUM OF SCORES     =    929.5212
SUM SCC. SCORES   =  11053.9865
MEAN              =     11.7661
STNC. CEV. (N)    =      1.2178
STNC. CEV. (N-1)  =      1.2256
```

Difference Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =     -2.2500
MAXIMUM VALLE     =      2.2857
SUM OF SCORES     =     11.8448
SUM SCC. SCCRES   =     63.8424
MEAN              =      0.1499
STNC. CEV. (N)    =      0.8864
STNC. CEV. (N-1)  =      0.8920
```

Subscore 7.

Pretest Means by Classroom

```
CASES PROCESSED   =          79
MINIMUM VALLE     =     13.2308
MAXIMUM VALLE     =     18.6304
SUM OF SCORES     =   1269.2917
SUM SCC. SCCRES   =  20519.5832
MEAN              =     16.0670
STNC. CEV. (N)    =      1.2644
STNC. CEV. (N-1)  =      1.2725
```

Posttest Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =     12.9231
MAXIMUM VALUE     =     21.9000
SUM OF SCCRES     =   1325.3659
SUM SCC. SCCRES   =  22415.3433
MEAN              =     16.7768
STNC. CEV. (N)    =      1.5093
STNC. CEV. (N-1)  =      1.5190
```

Difference Means by Classroom

```
CASES PROCESSEC   =          79
MINIMUM VALLE     =     -2.6923
MAXIMUM VALLE     =      9.0000
SUM OF SCCRES     =     56.0741
SUM SCC. SCORES   =    166.7677
MEAN              =      0.7098
STNC. CEV. (N)    =      1.2677
STNC. CEV. (N-1)  =      1.2758
```

Subscore 8.

TB 5

Behavior Inventory

Pretest Means by Classroom

```
CASES PROCESSEC    =          79
MINIMUM VALUE      =        4.25CC
MAXIMUM VALUE      =        6.60CC
SUM OF SCORES      =      407.9632
SUM SQD. SCORES    =     2128.1732
MEAN               =        5.1641
STNC. DEV. (N)     =        C.5206
STNC. DEV. (N-1)   =        C.5240
```

Posttest Means by Classroom

```
CASES PROCESSED    =          79
MINIMUM VALUE      =        4.3846
MAXIMUM VALUE      =        7.1538
SUM OF SCORES      =      426.9045
SUM SQD. SCORES    =     2334.5136
MEAN               =        5.4039
STND. DEV. (N)     =        C.5909
STND. DEV. (N-1)   =        C.5947
```

Difference Means by Classroom

```
CASES PROCESSED    =          79
MINIMUM VALUE      =       -1.1111
MAXIMUM VALUE      =        1.8462
SUM OF SCORES      =       18.9412
SUM SQD. SCORES    =       22.1881
MEAN               =        C.2398
STND. DEV. (N)     =        C.4726
STND. DEV. (N-1)   =        C.4756
```

Subscore 9.

Reliability:
Alpha Coefficients

Pretest Behavior Inventory Subscore 1 = 0.8150
2 = 0.3057
3 = 0.8538
4 = 0.8083
5 = 0.8311
6 = 0.6371
7 = 0.6871
8 = 0.6902
9 = 0.5246

Posttest Behavior Inventory Subscore 1 = 0.7920
2 = 0.3000
3 = 0.8566
4 = 0.8347
5 = 0.8237
6 = 0.6065
7 = 0.7136
8 = 0.6899
9 = 0.6346

Formula for Alpha Coefficient:

$$\alpha_t = \frac{n_t}{n_t - 1.0} \cdot \frac{S_t^2 - \sum_{i=1}^{n_t} S_i^2}{S_t^2}$$

n_t = number of items

S_t^2 = test variance

S_i^2 = item variance

Technical Appendix C

Preschool Inventory

(4 Subscores and Total from
Preschool Performance Questions)

TC 1

Preschool Inventory
total

Pretest Means by Classroom

```
CASES PROCESSED  =              79
MINIMUM VALUE    =              26.CCCC
MAXIMUM VALUE    =              7C.4CCC
SUM OF SCORES    =            4213.7079
SUM SQD. SCORES  =          23C786.7813
MEAN             =              53.3301
STND. DEV. (N)   =               8.7408
STND. DEV. (N-1) =               8.7966
```

Posttest Means by Classroom

```
CASES PROCESSED  =              79
MINIMUM VALUE    =              35.125C
MAXIMUM VALUE    =              74.3333
SUM OF SCORES    =            459C.4219
SUM SQD. SCORES  =          272546.4883
MEAN             =              58.1066
STND. DEV. (N)   =               8.5777
STND. DEV. (N-1) =               8.6326
```

Difference Means by Classroom

```
SCORE INTERVALS           F    PCT      CF  MID-P

15.501 -    16.5C0        1    1.3      79   99.4
10.501 -    11.5CC        2    2.5      78   97.5
 9.501 -    1C.5C0        2    2.5      76   94.9
 8.501 -     9.500        3    3.8      74   91.8
 7.501 -     8.50C        4    5.1      71   87.3
 6.501 -     7.5C0        7    8.9      67   80.4
 5.501 -     6.50C        9   11.4      60   70.3
 4.501 -     5.500       11   13.9      51   57.6
 3.501 -     4.50C       14   17.7      40   41.8
 2.501 -     3.50C       1C   12.7      26   26.6
 1.501 -     2.5C0        6    7.6      16   16.5
 0.501 -     1.50C        5    6.3      1C    9.5
-0.499 -     0.5C0        3    3.8       5    4.4
-1.499 -    -C.5C0        1    1.3       2    1.9
-2.499 -    -1.5C0        1    1.3       1    0.6

CASES PROCESSED  =              79
MINIMUM VALUE    =              -1.8571
MAXIMUM VALUE    =              15.8462
SUM OF SCORES    =             376.7141
SUM SQD. SCORES  =            2512.3711
MEAN             =               4.7685
STND. DEV. (N)   =               3.0105
STND. DEV. (N-1) =               3.0298
```

TC 2

Reliability Estimates (all scores)
(Preschool Inventory)

```
PRE C1          ALPHA COEFFICIENT=  0.8069
--------------------------------------------
PRE C2          ALPHA COEFFICIENT=  0.8423
--------------------------------------------
PRE C3          ALPHA COEFFICIENT=  0.8064
--------------------------------------------
PRE C4          ALPHA COEFFICIENT=  0.8184
--------------------------------------------
PRE CT          ALPHA COEFFICIENT=  0.9374
--------------------------------------------
PST C1          ALPHA COEFFICIENT=  0.7999
--------------------------------------------
PST C2          ALPHA COEFFICIENT=  0.8537
--------------------------------------------
PST C3          ALPHA COEFFICIENT=  0.8215
--------------------------------------------
PST C4          ALPHA COEFFICIENT=  0.8021
--------------------------------------------
PST CT          ALPHA COEFFICIENT=  0.9390
```

Formula Used:

$$\alpha_t = \frac{n_t}{n_t-1.0} \cdot \frac{S_t^2-\sum_{i=1}^{n_t} S_i^2}{S_t^2}$$

n_t = number of items

S_t^2 = test variance

S_i^2 = item variance

TC 3

Preschool Inventory

Pretest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =       10.0000
MAXIMUM VALUE    =       22.6250
SUM OF SCORES    =     1458.5403
SUM SQD. SCORES  =    27341.6755
MEAN             =       18.4625
STND. DEV. (N)   =        2.2873
STND. DEV. (N-1) =        2.3020
```

Posttest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =       13.6250
MAXIMUM VALUE    =       22.8750
SUM OF SCORES    =     1557.7426
SUM SQD. SCORES  =    31037.3625
MEAN             =       19.7183
STND. DEV. (N)   =        2.0170
STND. DEV. (N-1) =        2.0299
```

Difference Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =       -1.0833
MAXIMUM VALUE    =        6.5385
SUM OF SCORES    =       99.2023
SUM SQD. SCORES  =      233.4312
MEAN             =        1.2557
STND. DEV. (N)   =        1.1739
STND. DEV. (N-1) =        1.1814
```

Subscore 1.

Pretest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =        3.4000
MAXIMUM VALUE    =       16.8000
SUM OF SCORES    =      852.7802
SUM SQD. SCORES  =     9812.0184
MEAN             =       10.7947
STND. DEV. (N)   =        2.7708
STND. DEV. (N-1) =        2.7885
```

Posttest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =        4.7000
MAXIMUM VALUE    =       19.4000
SUM OF SCORES    =      985.9579
SUM SQD. SCORES  =    13133.6559
MEAN             =       12.4805
STND. DEV. (N)   =        3.2383
STND. DEV. (N-1) =        3.2590
```

Difference Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =       -3.0000
MAXIMUM VALUE    =        4.7273
SUM OF SCORES    =      133.1777
SUM SQD. SCORES  =      430.8217
MEAN             =        1.6858
STND. DEV. (N)   =        1.6163
STND. DEV. (N-1) =        1.6266
```

Subscore 2.

TC 4

Preschool Inventory

Pretest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =        5.2000
MAXIMUM VALUE    =       14.5000
SUM OF SCORES    =      799.6826
SUM SQD. SCORES  =     8449.2823
MEAN             =       10.1226
STND. DEV. (N)   =        2.1182
STND. DEV. (N-1) =        2.1317
```

Posttest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =        6.2500
MAXIMUM VALUE    =       14.8000
SUM OF SCORES    =      874.9931
SUM SQD. SCORES  =    10031.9738
MEAN             =       11.0759
STND. DEV. (N)   =        2.0766
STND. DEV. (N-1) =        2.0899
```

Difference Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =       -0.6923
MAXIMUM VALUE    =        3.3077
SUM OF SCORES    =       75.3105
SUM SQD. SCORES  =      146.1507
MEAN             =        0.9533
STND. DEV. (N)   =        0.9702
STND. DEV. (N-1) =        0.9764
```

Subscore 3.

Pretest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =        7.4000
MAXIMUM VALUE    =       17.6667
SUM OF SCORES    =     1102.7046
SUM SQD. SCORES  =    15766.3660
MEAN             =       13.9583
STND. DEV. (N)   =        2.1773
STND. DEV. (N-1) =        2.1912
```

Posttest Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =        9.0000
MAXIMUM VALUE    =       17.8667
SUM OF SCORES    =     1171.7283
SUM SQD. SCORES  =    17661.0049
MEAN             =       14.8320
STND. DEV. (N)   =        1.8891
STND. DEV. (N-1) =        1.9012
```

Difference Means by Classroom

```
CASES PROCESSED  =            79
MINIMUM VALUE    =       -0.5000
MAXIMUM VALUE    =        3.3846
SUM OF SCORES    =       69.0237
SUM SQD. SCORES  =      112.5990
MEAN             =        0.8737
STND. DEV. (N)   =        0.8133
STND. DEV. (N-1) =        0.8185
```

Subscore 4.

Technical Appendix D

Significance Tests for Mean Differences
(Complete Data)
N = 79

Stanford-Binet MA t = 18.05
(df = 78)

Stanford-Binet I.Q. t = 13.63
(df = 78)

Behavior Inventory	Subscore 1	t = 7.08
	Subscore 2	t = 1.87
	Subscore 3	t = 6.09
	Subscore 4	t = 3.70
	Subscore 5	t = 2.15
	Subscore 6	t = 1.82
	Subscore 7	t = 1.68
	Subscore 8	t = 4.80
	Subscore 9	t = 4.48

Preschool Inventory	Subscore 1	t = 9.45
	Subscore 2	t = 9.21
	Subscore 3	t = 8.68
	Subscore 4	t = 9.49
	Total	t = 13.99

Formula Used

t - Test:

$$t = \frac{\sqrt{N-1}\ \bar{D}}{S_D}$$

$$\bar{D} = \sum_{i=1}^{n} \frac{(\mathrm{Post}_i - \mathrm{Pre}_i)}{N} = \frac{\sum_{i=1}^{n} y_i}{N}$$

Let $y_i = \mathrm{Post}_i - \mathrm{Pre}_i$

$$S_D = \sqrt{\frac{\sum y_i^2 - \frac{(\sum y_i)^2}{N}}{N}}$$

Technical Appendix E

Variables 1-48

A Portion of the Correlation Matrix

(Total matrix will be available as
separate document and as computer tape)

CORRELATION MATRIX BINET,PI,AND BI-VARIABLES 1-48

C = Preschool Inventory Z = Behavior Inventory

	PRE MA	PRE IQ	PRE C1	PRE C2	PRE C3	PRE C4	PRE CT	PRE Z1	PRE Z2	PRE Z3
PRE MA	1.0000	0.5793	0.7019	0.8167	0.8546	0.8375	0.8582	0.1746	-0.1228	0.1476
PRE IQ	0.5793	1.0000	0.3534	0.4917	0.3328	0.3232	0.4095	0.3582	0.1356	0.3541
PRE C1	0.7018	0.3534	1.0000	0.7820	0.8222	0.8126	0.9112	0.1000	-0.1057	0.0520
PRE C2	0.8167	0.4917	0.7820	1.0000	0.8359	0.8442	0.9345	0.2290	-0.0953	0.1779
PRE C3	0.8546	0.3328	0.8222	0.8359	1.0000	0.8993	0.9465	0.1930	-0.0747	0.1691
PRE C4	0.8375	0.3232	0.8126	0.8442	0.8993	1.0000	0.9473	0.1490	-0.0446	0.0966
PRE CT	0.8582	0.4095	0.9112	0.9345	0.9465	0.9473	1.0000	0.1826	-0.0871	0.1350
PRE Z1	0.1746	0.3582	0.1000	0.2290	0.1930	0.1490	0.1826	1.0000	0.0547	0.7385
PRE Z2	-0.1228	0.1356	-0.1057	-0.0953	-0.0747	-0.0446	-0.0871	0.0547	1.0000	0.4091
PRE Z3	0.1476	0.3541	0.0520	0.1779	0.1691	0.0966	0.1350	0.7385	0.4091	1.0000
PRE Z4	0.0801	0.2685	0.0671	0.1809	0.1711	0.1424	0.1519	0.7693	0.2685	0.6635
PRE Z5	0.0506	0.1273	0.0735	0.2274	0.1029	0.1258	0.1476	0.7430	0.0188	0.5523
PRE Z6	-0.0019	0.1917	0.0668	0.1824	0.0777	0.0672	0.1109	0.7443	0.2100	0.6226
PRE Z7	-0.1095	-0.0225	0.0147	0.0264	0.0134	-0.0025	0.0148	0.5693	0.0579	0.4373
PRE Z8	0.0962	0.2004	0.0423	0.1392	0.1542	0.1342	0.1260	0.5991	0.3503	0.5869
PRE Z9	0.2093	0.3687	0.2084	0.2130	0.1561	0.1786	0.2043	0.4745	0.2485	0.6279
PST MA	0.5626	0.5493	0.6985	0.8032	0.8649	0.8455	0.8576	0.2080	-0.1101	0.1604
PST IQ	0.5010	0.9301	0.3338	0.4349	0.3084	0.2925	0.3728	0.3740	0.1123	0.3367
PST C1	0.7096	0.2955	0.8586	0.7467	0.7942	0.8042	0.8542	0.0233	-0.1286	0.0430
PST C2	0.7832	0.4339	0.7697	0.8666	0.8415	0.8412	0.8896	0.1784	-0.0699	0.1304
PST C3	0.8079	0.2920	0.7311	0.7899	0.8932	0.8510	0.8702	0.2006	-0.1192	0.1233
PST C4	0.8234	0.2548	0.7255	0.7874	0.8358	0.9297	0.8736	0.1667	-0.1116	0.1191
PST CT	0.8395	0.3601	0.8292	0.8674	0.9047	0.9174	0.9397	0.1581	-0.1101	0.1154
PST Z1	0.2232	0.2943	0.2103	0.3008	0.2004	0.2406	0.2589	0.7162	-0.0221	0.5484
PST Z2	-0.1806	-0.0416	-0.0456	-0.0932	-0.0829	-0.0363	-0.0706	0.0845	0.7093	0.2629
PST Z3	0.1212	0.3024	0.0852	0.1957	0.1079	0.0784	0.1300	0.5210	0.2504	0.7017
PST Z4	0.0127	0.1705	0.0952	0.1426	0.0700	0.1052	0.1133	0.4964	0.1555	0.3527
PST Z5	0.0385	0.0186	0.0751	0.2444	0.0608	0.1398	0.1467	0.4885	-0.0418	0.3549
PST Z6	-0.0619	0.0826	0.0689	0.1864	-0.0341	0.0724	0.0869	0.4214	0.0313	0.3144
PST Z7	-0.0732	-0.1124	0.0783	0.1246	0.0366	0.0787	0.0885	0.3881	-0.0590	0.2544
PST Z8	-0.0051	0.1462	0.0352	0.0573	0.0001	0.0163	0.0315	0.4412	0.2523	0.4352
PST Z9	0.1510	0.3159	0.1914	0.1854	0.1045	0.1505	0.1716	0.3166	0.1784	0.3741
DIF MA	-0.0439	-0.0564	0.0539	0.0270	0.1184	0.1080	0.0783	0.1399	0.0350	0.0611
DIF IQ	-0.1589	-0.0976	-0.0208	-0.1088	-0.0354	-0.0534	-0.0618	0.0759	-0.0507	-0.0147
DIF C1	-0.1482	-0.1809	-0.4733	-0.2407	-0.2374	-0.2014	-0.3079	-0.1547	-0.0150	-0.0274
DIF C2	0.1692	0.0263	0.2016	0.0220	0.2530	0.2381	0.1803	-0.0351	0.0232	-0.0437
DIF C3	-0.1366	-0.1015	-0.2300	-0.1344	-0.2714	-0.1419	-0.2039	0.0079	-0.0921	-0.1055
DIF C4	-0.3294	-0.2734	-0.4902	-0.4311	-0.4662	-0.5176	-0.5068	-0.0118	-0.1399	0.0181
DIF CT	-0.1000	-0.1630	-0.2829	-0.2418	-0.1702	-0.1363	-0.2259	-0.0798	-0.0609	-0.0632
DIF Z1	0.0424	-0.1201	0.1287	0.0658	-0.0118	0.0996	0.0765	-0.4689	-0.1031	-0.3215
DIF Z2	-0.0571	-0.2366	0.0875	0.0141	-0.0011	0.0157	0.0310	0.0304	-0.4824	-0.2312
DIF Z3	-0.0230	-0.0397	0.0485	0.0385	-0.0677	-0.0163	0.0044	-0.2288	-0.1777	-0.3149
DIF Z4	-0.0814	-0.1317	0.0251	-0.0582	-0.1266	-0.0535	-0.0559	-0.3686	-0.1482	-0.4010
DIF Z5	-0.0194	-0.1577	-0.0013	0.0131	-0.0636	0.0137	-0.0082	-0.3903	-0.0854	-0.3016
DIF Z6	-0.0724	-0.1162	0.0077	0.0191	-0.1285	0.0116	-0.0202	-0.3302	-0.1986	-0.3220
DIF Z7	0.0407	-0.1254	0.0886	0.1372	0.0330	0.1113	0.1024	-0.2015	-0.1558	-0.2148
DIF Z8	-0.1020	-0.0258	-0.0002	-0.0707	-0.1537	-0.1145	-0.0882	-0.0722	-0.0490	-0.0671
DIF Z9	-0.0417	-0.0112	0.0097	-0.0028	-0.0413	-0.0086	-0.0105	-0.1248	-0.0507	-0.2239

CORRELATION MATRIX   BINET,PI,AND BI-VARIABLES 1-48   C = Preschool Inventory   Z = Behavior Inventory

	PRE Z4	PRE Z5	PRE Z6	PRE Z7	PRE Z8	PRE Z9	PST MA	PST IQ	PST C1	PST C2
PRE MA	0.0801	0.0506	-0.0019	-0.1095	0.0962	0.2093	0.9626	0.5010	0.7096	0.7832
PRE IQ	0.2685	0.1273	0.1917	-0.0225	0.2004	0.3687	0.5493	0.9301	0.2955	0.4339
PRE C1	0.0671	0.0735	0.0668	0.0147	0.0423	0.2084	0.6985	0.3338	0.8586	0.7697
PRE C2	0.1809	0.2274	0.1824	0.0264	0.1392	0.2130	0.8032	0.4349	0.7467	0.8666
PRE C3	0.1711	0.1029	0.0777	0.0134	0.1542	0.1561	0.8649	0.3084	0.7942	0.8415
PRE C4	0.1424	0.1258	0.0672	-0.0025	0.1342	0.1786	0.8455	0.2925	0.8042	0.8412
PRE CT	0.1519	0.1476	0.1109	0.0148	0.1260	0.2043	0.8576	0.3728	0.8542	0.8896
PRE Z1	0.7693	0.7430	0.7443	0.5693	0.5991	0.4749	0.2080	0.3740	0.0233	0.1784
PRE Z2	0.2685	0.0188	0.2100	0.0579	0.3503	0.2485	-0.1101	0.1123	-0.1286	-0.0699
PRE Z3	0.6635	0.5523	0.6226	0.4373	0.5869	0.6279	0.1604	0.3367	0.0430	0.1304
PRE Z4	1.0000	0.6608	0.6919	0.6101	0.7359	0.3210	0.0935	0.2406	-0.0244	0.1200
PRE Z5	0.6608	1.0000	0.8206	0.8032	0.4109	0.2717	0.1137	0.1661	0.0063	0.1654
PRE Z6	0.6919	0.8206	1.0000	0.6812	0.5176	0.3627	0.0276	0.1948	-0.0276	0.1154
PRE Z7	0.6101	0.8032	0.6812	1.0000	0.2795	0.2474	-0.0947	-0.0225	-0.0847	-0.0081
PRE Z8	0.7359	0.4109	0.5176	0.2795	1.0000	0.2502	0.0877	0.1372	0.0711	0.1525
PRE Z9	0.3210	0.2717	0.3627	0.2474	0.2502	1.0000	0.1964	0.3346	0.1581	0.1687
PST MA	0.0935	0.1137	0.0276	-0.0947	0.0877	0.1964	1.0000	0.5600	0.7090	0.7946
PST IQ	0.2406	0.1661	0.1948	-0.0225	0.1372	0.3346	0.5600	1.0000	0.2697	0.4049
PST C1	-0.0244	0.0063	-0.0276	-0.0847	0.0711	0.1581	0.7090	0.2697	1.0000	0.8382
PST C2	0.1200	0.1654	0.1154	-0.0081	0.1525	0.1687	0.7946	0.4049	0.8382	1.0000
PST C3	0.1012	0.1432	0.0907	0.0095	0.1687	0.1368	0.8284	0.2833	0.7800	0.8224
PST C4	0.1402	0.1599	0.0519	0.0098	0.1920	0.1656	0.8193	0.2123	0.8074	0.7888
PST CT	0.0949	0.1338	0.0705	-0.0185	0.1574	0.1704	0.8477	0.3316	0.9182	0.9474
PST Z1	0.4824	0.5844	0.5021	0.5046	0.4599	0.4090	0.2234	0.2689	0.1429	0.2746
PST Z2	0.1974	0.0833	0.1857	0.1307	0.2679	0.2114	-0.1671	-0.0522	-0.1636	-0.0957
PST Z3	0.4075	0.3619	0.3714	0.3497	0.4489	0.4867	0.0936	0.2440	0.0694	0.1579
PST Z4	0.6219	0.5063	0.4842	0.4637	0.5217	0.2191	-0.0091	0.1043	-0.0132	0.1244
PST Z5	0.3929	0.7524	0.5785	0.6389	0.2688	0.2091	0.0399	-0.0124	0.0173	0.1391
PST Z6	0.3776	0.6155	0.6323	0.5576	0.2633	0.2289	-0.0786	0.0399	-0.0391	0.0966
PST Z7	0.3868	0.5937	0.4806	0.7200	0.1919	0.1848	-0.1116	-0.1614	-0.0068	0.0469
PST Z8	0.4146	0.3311	0.3831	0.2541	0.5946	0.3255	-0.0300	0.0855	-0.0186	0.0168
PST Z9	0.2063	0.1294	0.1984	0.1988	0.1968	0.6450	0.1086	0.2410	0.0965	0.1482
DIF MA	0.0571	0.2376	0.1087	0.0442	-0.0225	-0.0277	0.2282	0.2647	0.0646	0.1156
DIF IQ	-0.0510	0.1169	0.0261	-0.0019	-0.1529	-0.0585	0.0795	0.2748	-0.0430	-0.0386
DIF C1	-0.1728	-0.1325	-0.1777	-0.1742	0.0398	-0.1344	-0.1428	-0.1871	0.0452	-0.0596
DIF C2	-0.0698	-0.0585	-0.0815	-0.0615	0.0669	-0.0271	0.2151	0.0657	0.3993	0.5179
DIF C3	-0.1571	0.0819	0.0244	-0.0089	0.0245	-0.0479	-0.1154	-0.0670	-0.0644	-0.0770
DIF C4	-0.0556	0.0348	-0.0592	0.0295	0.0867	-0.0934	-0.3603	-0.2900	-0.2775	-0.4197
DIF CT	-0.1705	-0.0473	-0.1212	-0.0959	0.0827	-0.1077	-0.0747	-0.1376	0.1363	0.1166
DIF Z1	-0.4475	-0.2822	-0.3882	-0.1442	-0.2420	-0.1355	-0.0034	-0.1741	0.1487	0.1022
DIF Z2	-0.1209	0.0779	-0.0556	0.0835	-0.1448	-0.0761	-0.0574	-0.2181	-0.0279	-0.0236
DIF Z3	-0.2863	-0.2082	-0.2832	-0.0805	-0.1354	-0.1363	-0.0757	-0.0957	0.0387	0.0474
DIF Z4	-0.5049	-0.2286	-0.2899	-0.2151	-0.3009	-0.1407	-0.1213	-0.1715	0.0146	-0.0057
DIF Z5	-0.4051	-0.3928	-0.3766	-0.2671	-0.2177	-0.1003	-0.1085	-0.2571	0.0151	-0.0445
DIF Z6	-0.3240	-0.1825	-0.3634	-0.0953	-0.2654	-0.1326	-0.1257	-0.1712	-0.0160	-0.0136
DIF Z7	-0.2559	-0.2209	-0.2188	-0.3015	-0.0971	-0.0654	-0.0310	-0.1927	0.1000	0.0750
DIF Z8	-0.2404	-0.0156	-0.0601	0.0238	-0.2894	0.1380	-0.1232	-0.0351	-0.0930	-0.1321
DIF Z9	-0.0957	-0.1376	-0.1515	-0.0240	-0.0296	-0.2952	-0.0806	-0.0673	-0.0534	-0.0006

CORRELATION MATRIX BINET,PI,AND BI-VARIABLES 1-48 C = Preschool Inventory Z = Behavior Inventory

	PST C3	PST C4	PST CT	PST Z1	PST Z2	PST Z3	PST Z4	PST Z5	PST Z6	PST Z7
PRE MA	0.8079	0.8234	0.8395	0.2232	-0.1806	0.1212	0.0127	0.0385	-0.0619	-0.0732
PRE IQ	0.2920	0.2548	0.3601	0.2943	-0.0416	0.3024	0.1705	0.0186	0.0826	-0.1124
PRE C1	0.7311	0.7255	0.8292	0.2103	-0.0456	0.0852	0.0952	0.0751	0.0689	0.0783
PRE C2	0.7899	0.7874	0.8674	0.3009	-0.0932	0.1957	0.1426	0.2444	0.1864	0.1246
PRE C3	0.8932	0.8358	0.9047	0.2004	-0.0829	0.1079	0.0700	0.0608	-0.0341	0.0366
PRE C4	0.8510	0.9297	0.9174	0.2406	-0.0363	0.0784	0.1052	0.1398	0.0724	0.0787
PRE CT	0.8702	0.8736	0.9397	0.2589	-0.0706	0.1300	0.1133	0.1467	0.0869	0.0885
PRE Z1	0.2006	0.1667	0.1581	0.7162	0.0845	0.5210	0.4964	0.4885	0.4214	0.3881
PRE Z2	-0.1192	-0.1116	-0.1101	-0.0221	0.7093	0.2504	0.1555	-0.0418	0.0313	-0.0590
PRE Z3	0.1233	0.1191	0.1154	0.5484	0.2629	0.7017	0.3527	0.3549	0.3144	0.2544
PRE Z4	0.1012	0.1402	0.0949	0.4824	0.1974	0.4075	0.6219	0.3929	0.3776	0.3868
PRE Z5	0.1432	0.1599	0.1338	0.5844	0.0833	0.3619	0.5063	0.7524	0.6155	0.5937
PRE Z6	0.0967	0.0519	0.0705	0.5021	0.1857	0.3714	0.4842	0.5785	0.6328	0.4806
PRE Z7	0.0095	0.0098	-0.0185	0.5046	0.1307	0.3497	0.4637	0.6389	0.5576	0.7200
PRE Z8	0.1687	0.1920	0.1574	0.4599	0.2679	0.4489	0.5217	0.2608	0.2634	0.1919
PRE Z9	0.1368	0.1656	0.1704	0.4090	0.2114	0.4867	0.2191	0.209[illegible]	0.2289	0.1848
PST MA	0.8284	0.8193	0.8477	0.2234	-0.1671	0.0936	-0.0091	0.0399	-0.0786	-0.1116
PST IQ	0.2833	0.2123	0.3316	0.2689	-0.0522	0.2440	0.1043	-0.0124	0.0399	-0.1614
PST C1	0.7800	0.8074	0.9182	0.1429	-0.1636	0.0694	-0.0132	0.0173	-0.0391	-0.0068
PST C2	0.8224	0.7888	0.9474	0.2746	-0.0957	0.1579	0.1244	0.1391	0.0966	0.0469
PST C3	1.0000	0.8660	0.9267	0.2696	-0.1203	0.1141	0.0936	0.1667	0.0250	0.1233
PST C4	0.8660	1.0000	0.9175	0.2817	-0.0832	0.0918	0.1238	0.2012	0.0781	0.1354
PST CT	0.9267	0.9175	1.0000	0.2646	-0.1220	0.1238	0.0938	0.1413	0.0505	0.0758
PST Z1	0.2696	0.2817	0.2646	1.0000	0.0859	0.7655	0.6758	0.7195	0.6116	0.6350
PST Z2	-0.1203	-0.0832	-0.1220	0.0859	1.0000	0.3253	0.3168	0.1058	0.3171	0.0896
PST Z3	0.1141	0.0918	0.1238	0.7655	0.3253	1.0000	0.5675	0.5050	0.5459	0.4403
PST Z4	0.0936	0.1238	0.0938	0.6758	0.3168	0.5675	1.0000	0.6373	0.6499	0.6419
PST Z5	0.1667	0.2012	0.1413	0.7195	0.1058	0.5050	0.6373	1.0000	0.7855	0.8061
PST Z6	0.0250	0.0781	0.0505	0.6116	0.3171	0.5459	0.6499	0.7855	1.0000	0.7041
PST Z7	0.1233	0.1354	0.0758	0.6350	0.0896	0.4403	0.6419	0.8061	0.7041	1.0000
PST Z8	0.0457	0.0988	0.0348	0.6595	0.3691	0.6563	0.7241	0.5021	0.5096	0.4304
PST Z9	0.1303	0.1350	0.1399	0.6189	0.2141	0.6735	0.5015	0.3756	0.4222	0.3896
DIF MA	0.1513	0.0621	0.1091	0.0216	0.0330	-0.0905	-0.0790	0.0089	-0.0674	-0.1484
DIF IQ	0.0032	-0.0917	-0.0441	-0.0420	-0.0326	-0.1306	-0.1638	-0.0824	-0.1082	-0.1429
DIF C1	-0.0845	-0.0263	-0.0381	-0.1644	-0.1922	-0.0467	-0.2082	-0.1166	-0.2015	-0.1642
DIF C2	0.2936	0.2306	0.4113	0.0344	-0.0321	-0.0192	0.0049	-0.1404	-0.1260	-0.1197
DIF C3	0.1903	0.0288	0.0082	0.1394	-0.0765	0.0087	0.0477	0.2241	0.1280	0.1842
DIF C4	-0.2668	-0.1661	-0.3249	0.0102	-0.0960	0.0034	0.0057	0.0931	-0.0124	0.1037
DIF CT	0.1139	0.0779	0.1208	0.0021	-0.1428	-0.0248	-0.0617	-0.0234	-0.1084	-0.0409
DIF Z1	0.0654	0.1273	0.1174	0.2807	-0.0075	0.2522	0.1726	0.2388	0.1946	0.2698
DIF Z2	0.0131	0.0488	-0.0015	0.1368	0.2753	0.0628	0.1816	0.1884	0.3514	0.1918
DIF Z3	-0.0021	-0.0266	0.0206	0.3344	0.1048	0.4552	0.3152	0.2293	0.3343	0.2686
DIF Z4	-0.0172	-0.0305	-0.0096	0.1707	0.1143	0.1405	0.3619	0.2348	0.2669	0.2471
DIF Z5	0.0261	0.0502	0.0041	0.1611	0.0274	0.1828	0.1591	0.3103	0.2083	0.2685
DIF Z6	-0.0720	0.0356	-0.0185	0.1711	0.1727	0.2390	0.2373	0.2943	0.4914	0.3066
DIF Z7	0.1572	0.1733	0.1281	0.2211	-0.0456	0.1536	0.2834	0.2828	0.2477	0.4446
DIF Z8	-0.1139	-0.0738	-0.1155	0.3265	0.1723	0.3336	0.3418	0.3297	0.3441	0.3210
DIF Z9	0.0122	-0.0136	-0.0128	0.3232	0.0347	0.3058	0.3856	0.2394	0.2757	0.2836

CORRELATION MATRIX BINET,PI,AND BI-VARIABLES 1-48

C = Preschool Inventory Z = Behavior Inventory

	PST Z8	PST Z9	DIF MA	DIF IQ	DIF C1	DIF C2	DIF C3	DIF C4	DIF CT	DIF Z1
PRE MA	-0.0051	0.1510	-0.0439	-0.1589	-0.1482	0.1692	-0.1366	-0.3294	-0.1000	0.0424
PRE IQ	0.1462	0.3159	-0.0564	-0.0976	-0.1809	0.0263	-0.1015	-0.2734	-0.1630	-0.1201
PRE C1	0.0352	0.1914	0.0539	-0.0208	-0.4733	0.2016	-0.2300	-0.4902	-0.2829	0.1287
PRE C2	0.0573	0.1854	0.0270	-0.1088	-0.2407	0.0220	-0.1344	-0.4311	-0.2418	0.0658
PRE C3	0.0001	0.1045	0.1184	-0.0354	-0.2374	0.2530	-0.2714	-0.4662	-0.1702	-0.0118
PRE C4	0.0163	0.1505	0.1080	-0.0534	-0.2014	0.2381	-0.1419	-0.5176	-0.1363	0.0996
PRE CT	0.0315	0.1716	0.0783	-0.0618	-0.3079	0.1803	-0.2039	-0.5068	-0.2259	0.0765
PRE Z1	0.4412	0.3186	0.1399	0.0759	-0.1547	-0.0351	0.0079	-0.0118	-0.0798	-0.4689
PRE Z2	0.2523	0.1784	0.0350	-0.0507	-0.0150	0.0232	-0.0921	-0.1399	-0.0609	-0.1031
PRE Z3	0.4352	0.3741	0.0611	-0.0147	-0.0274	-0.0437	-0.1055	0.0181	-0.0632	-0.3215
PRE Z4	0.4146	0.2063	0.0571	-0.0510	-0.1728	-0.0698	-0.1571	-0.0556	-0.1705	-0.4475
PRE Z5	0.3311	0.1294	0.2376	0.1169	-0.1325	-0.0585	0.0819	0.0348	-0.0473	-0.2822
PRE Z6	0.3831	0.1984	0.1087	0.0261	-0.1777	-0.0815	0.0244	-0.0592	-0.1212	-0.3882
PRE Z7	0.2541	0.1988	0.0442	-0.0019	-0.1742	-0.0615	-0.0089	0.0295	-0.0959	-0.1442
PRE Z8	0.5946	0.1968	-0.0225	-0.1529	0.0398	0.0669	0.0245	0.0867	0.0827	-0.2420
PRE Z9	0.3255	0.6450	-0.0277	-0.0585	-0.1344	-0.0271	-0.0479	-0.0934	-0.1077	-0.1355
PST MA	-0.0300	0.1086	0.2282	0.0795	-0.1428	0.2151	-0.1154	-0.3603	-0.0747	-0.0034
PST IQ	0.0855	0.2410	0.2647	0.2748	-0.1871	0.0657	-0.0670	-0.2900	-0.1376	-0.1741
PST C1	-0.0186	0.0965	0.0646	-0.0430	0.0452	0.3993	-0.0644	-0.2775	0.1363	0.1487
PST C2	0.0168	0.1482	0.1156	-0.0386	-0.0596	0.5179	-0.0770	-0.4197	0.1166	0.1022
PST C3	0.0457	0.1303	0.1513	0.0032	-0.0845	0.2936	0.1903	-0.2668	0.1139	0.0654
PST C4	0.0988	0.1350	0.0621	-0.0917	-0.0263	0.2306	0.0288	-0.1661	0.0779	0.1273
PST CT	0.0348	0.1399	0.1091	-0.0441	-0.0381	0.4113	0.0082	-0.3249	0.1208	0.1174
PST Z1	0.6595	0.6189	0.0216	-0.0420	-0.1644	0.0344	0.1394	0.0102	0.0021	0.2807
PST Z2	0.3691	0.2141	0.0330	-0.0326	-0.1922	-0.0321	-0.0765	-0.0960	-0.1428	-0.0075
PST Z3	0.6563	0.6735	-0.0905	-0.1306	-0.0467	-0.0192	0.0087	0.0034	-0.0248	0.2522
PST Z4	0.7241	0.5015	-0.0790	-0.1638	-0.2082	0.0049	0.0477	0.0057	-0.0617	0.1726
PST Z5	0.5021	0.3756	0.0089	-0.0824	-0.1166	-0.1404	0.2241	0.0931	-0.0234	0.2388
PST Z6	0.5096	0.4222	-0.0674	-0.1082	-0.2015	-0.1260	0.1280	-0.0124	-0.1084	0.1946
PST Z7	0.4304	0.3896	-0.1484	-0.1429	-0.1642	-0.1197	0.1842	0.1037	-0.0409	0.2698
PST Z8	1.0000	0.5979	-0.0927	-0.1512	-0.1005	-0.0644	0.0976	0.1859	0.0079	0.2278
PST Z9	0.5979	1.0000	-0.1425	-0.1740	-0.2071	-0.0210	0.0507	-0.0891	-0.0997	0.3450
DIF MA	-0.0927	-0.1425	1.0000	0.8649	0.0060	0.1853	0.0654	-0.1448	0.0838	-0.1651
DIF IQ	-0.1512	-0.1740	0.8649	1.0000	-0.0333	0.1092	0.0843	-0.0701	0.0538	-0.1574
DIF C1	-0.1005	-0.2071	0.0060	-0.0333	1.0000	0.2932	0.3375	0.4782	0.7853	0.0047
DIF C2	-0.0644	-0.0210	0.1853	0.1092	0.2932	1.0000	0.0761	-0.1019	0.6482	0.0919
DIF C3	0.0976	0.0507	0.0654	0.0843	0.3375	0.0761	1.0000	0.4468	0.6154	0.1656
DIF C4	0.1859	-0.0891	-0.1448	-0.0701	0.4782	-0.1019	0.4468	1.0000	0.5459	0.0291
DIF CT	0.0079	-0.0997	0.0838	0.0538	0.7853	0.6482	0.6154	0.5459	1.0000	0.1124
DIF Z1	0.2278	0.3450	-0.1651	-0.1574	0.0047	0.0919	0.1656	0.0291	0.1124	1.0000
DIF Z2	0.1147	0.0227	-0.0067	0.0285	-0.2184	-0.0715	0.0305	0.0715	-0.0944	0.1313
DIF Z3	0.3304	0.4296	-0.1969	-0.1556	-0.0280	0.0290	0.1433	-0.0181	0.0460	0.7379
DIF Z4	0.3047	0.3072	-0.1551	-0.1199	-0.0238	0.0884	0.2395	0.0725	0.1350	0.7230
DIF Z5	0.2232	0.3377	-0.3304	-0.2837	0.0284	-0.1116	0.1947	0.0798	0.0355	0.7406
DIF Z6	0.1822	0.2847	-0.2034	-0.1596	-0.0426	-0.0599	0.1265	0.0517	0.0059	0.6707
DIF Z7	0.2634	0.2788	-0.2609	-0.1938	-0.0008	-0.0850	0.2646	0.1045	0.0675	0.5569
DIF Z8	0.5975	0.5156	-0.0879	-0.0276	-0.1593	-0.1434	0.0918	0.1349	-0.0731	0.5125
DIF Z9	0.3890	0.5398	-0.1476	-0.1531	-0.1108	0.0037	0.1162	-0.0086	-0.0061	0.5806

CORRELATION MATRIX   BINET,PI,AND BI-VARIABLES 1-48   C=Preschool Inventory Z= Behavior Inventory

	DIF Z2	DIF Z3	DIF Z4	DIF Z5	DIF Z6	DIF Z7	DIF Z8	DIF Z9
PRE MA	-0.0571	-0.0230	-0.0814	-0.0194	-0.0724	0.0407	-0.1020	-0.0417
PRE IQ	-0.2366	-0.0397	-0.1317	-0.1577	-0.1162	-0.1254	-0.0258	-0.0112
PRE C1	0.0875	0.0485	0.0251	-0.0013	0.0077	0.0886	-0.0002	0.0097
PRE C2	0.0141	0.0385	-0.0582	0.0131	0.0191	0.1372	-0.0707	-0.0028
PRE C3	-0.0011	-0.0677	-0.1266	-0.0636	-0.1285	0.0330	-0.1537	-0.0413
PRE C4	0.0157	-0.0163	-0.0535	0.0137	0.0116	0.1113	-0.1145	-0.0086
PRE CT	0.0310	0.0044	-0.0559	-0.0082	-0.0202	0.1024	-0.0882	-0.0105
PRE Z1	0.0304	-0.2288	-0.3686	-0.3903	-0.3302	-0.2015	-0.0722	-0.1248
PRE Z2	-0.4824	-0.1777	-0.1482	-0.0854	-0.1986	-0.1558	-0.0490	-0.0507
PRE Z3	-0.2312	-0.3149	-0.4010	-0.3016	-0.3220	-0.2146	-0.0671	-0.2239
PRE Z4	-0.1209	-0.2863	-0.5049	-0.4051	-0.3240	-0.2559	-0.2404	-0.0957
PRE Z5	0.0779	-0.2082	-0.2286	-0.3928	-0.1825	-0.2209	-0.0156	-0.1376
PRE Z6	-0.0556	-0.2832	-0.2899	-0.3766	-0.3634	-0.2188	-0.0601	-0.1515
PRE Z7	0.0835	-0.0805	-0.2151	-0.2671	-0.0953	-0.3015	0.0238	-0.0240
PRE Z8	-0.1448	-0.1354	-0.3009	-0.2177	-0.2654	-0.0971	-0.2894	-0.0296
PRE Z9	-0.0761	-0.1363	-0.1407	-0.1003	-0.1326	-0.0654	0.1380	-0.2952
PST MA	-0.0574	-0.0757	-0.1213	-0.1085	-0.1257	-0.0310	-0.1232	-0.0806
PST IQ	-0.2181	-0.0957	-0.1715	-0.2571	-0.1712	-0.1927	-0.0351	-0.0673
PST C1	-0.0279	0.0387	0.0146	0.0151	-0.0160	0.1000	-0.0930	-0.0534
PST C2	-0.0236	0.0474	-0.0057	-0.0445	-0.0136	0.0750	-0.1321	-0.0006
PST C3	0.0131	-0.0021	-0.0172	0.0261	-0.0720	0.1572	-0.1139	0.0122
PST C4	0.0488	-0.0266	-0.0305	0.0502	0.0356	0.1733	-0.0738	-0.0136
PST CT	-0.0015	0.0206	-0.0096	0.0041	-0.0185	0.1281	-0.1155	-0.0128
PST Z1	0.1368	0.3344	0.1707	0.1611	0.1711	0.2211	0.3265	0.3232
PST Z2	0.2753	0.1048	0.1143	0.0274	0.1727	-0.0456	0.1723	0.0347
PST Z3	0.0628	0.4552	0.1405	0.1828	0.2390	0.1536	0.3336	0.3058
PST Z4	0.1816	0.3152	0.3619	0.1591	0.2373	0.2834	0.3418	0.3856
PST Z5	0.1884	0.2293	0.2348	0.3103	0.2943	0.2828	0.3297	0.2394
PST Z6	0.3514	0.3343	0.2669	0.2083	0.4914	0.2477	0.3441	0.2757
PST Z7	0.1918	0.2686	0.2471	0.2685	0.3066	0.4446	0.3210	0.2836
PST Z8	0.1147	0.3304	0.3047	0.2232	0.1822	0.2634	0.5975	0.3890
PST Z9	0.0227	0.4296	0.3072	0.3377	0.2847	0.2788	0.5156	0.5398
DIF MA	-0.0067	-0.1969	-0.1551	-0.3304	-0.2034	-0.2609	-0.0879	-0.1476
DIF IQ	0.0285	-0.1556	-0.1199	-0.2837	-0.1596	-0.1938	-0.0276	-0.1531
DIF C1	-0.2184	-0.0280	-0.0238	0.0284	-0.0426	-0.0008	-0.1593	-0.1108
DIF C2	-0.0715	0.0290	0.0884	-0.1116	-0.0599	-0.0850	-0.1434	0.0037
DIF C3	0.0305	0.1433	0.2395	0.1947	0.1265	0.2646	0.0918	0.1162
DIF C4	0.0715	-0.0181	0.0725	0.0798	0.0517	0.1045	0.1349	-0.0086
DIF CT	-0.0944	0.0460	0.1350	0.0355	0.0059	0.0675	-0.0731	-0.0061
DIF Z1	0.1313	0.7379	0.7230	0.7406	0.6707	0.5569	0.5125	0.5806
DIF Z2	1.0000	0.3726	0.3441	0.1506	0.4854	0.1558	0.2810	0.1123
DIF Z3	0.3726	1.0000	0.6883	0.6205	0.7208	0.4730	0.5284	0.6873
DIF Z4	0.3441	0.6883	1.0000	0.6577	0.6472	0.6171	0.6629	0.5390
DIF Z5	0.1506	0.6205	0.6577	1.0000	0.6742	0.7136	0.4828	0.5327
DIF Z6	0.4854	0.7208	0.6472	0.6742	1.0000	0.5442	0.4816	0.5021
DIF Z7	0.1558	0.4730	0.6171	0.7136	0.5442	1.0000	0.4104	0.4206
DIF Z8	0.2810	0.5284	0.6629	0.4828	0.4816	0.4104	1.0000	0.4926
DIF Z9	0.1123	0.6873	0.5390	0.5327	0.5021	0.4206	0.4926	1.0000

Technical Appendix F

Analysis of Variance Estimates of Reliabilities of Classroom Observation Form

TF 1

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EMOTION

                      SUM OF SQUARES          D.O.F.    MEAN SQUARE          F RATIO        PROB F GRTER


BETWEEN STIMULI            36.1667          17.0000        2.1275
WITHIN STIMULI             14.6667          36.0000        0.4074
BETWEEN JUDGES              0.1111           2.0000        0.0556            0.1298           0.8787
RESIDUAL                   14.5556          34.0000        0.4281
TOTAL                      50.8333          53.0000

                                 WITH JUDGE VARIATION           WITHOUT JUDGE VARIATION


    RELIABILITY ACROSS JUDGES              0.8085                    0.7988
    RELIABILITY PER JUDGE                  0.5846                    0.5696


                                 CORRELATION MATRIX       EMOTION

                                               OBSERV     JUDGES

                                 OBSERV        1.0000     0.6167
                                 JUDGES        0.6167     1.0000




ORGANIZATION

                      SUM OF SQUARES          D.O.F.    MEAN SQUARE          F RATIO        PROB F GRTER


BETWEEN STIMULI            66.7593          17.0000        3.9270
WITHIN STIMULI             22.0000          36.0000        0.6111
BETWEEN JUDGES              0.7037           2.0000        0.3519            0.5617           0.8754
RESIDUAL                   21.2963          34.0000        0.6264
TOTAL                      88.7593          53.0000

                                 WITH JUDGE VARIATION           WITHOUT JUDGE VARIATION


    RELIABILITY ACROSS JUDGES              0.8444                    0.8405
    RELIABILITY PER JUDGE                  0.6440                    0.6372


                                 CORRELATION MATRIX       ORGANIZATION

                                               OBSERV     JUDGES

                                 OBSERV        1.0000     0.7675
                                 JUDGES        0.7675     1.0000
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                                        TF 2

CONTENT

              SUM OF SQUARES          N.D.F.     MEAN SQUARE          F RATIO        PROB F GRTER


BETWEEN STIMULI      56.0926          17.0000         3.2996
WITHIN STIMULI       29.3333          36.0000         0.8148
BETWEEN JUDGES        3.3704           2.0000         1.6852          2.2068            0.1256
RESIDUAL             25.9630          34.0000         0.7636
TOTAL                85.4259          53.0000

                        WITH JUDGE VARIATION          WITHOUT JUDGE VARIATION

   RELIABILITY ACROSS JUDGES          0.7531                      0.7686
   RELIABILITY PER JUDGE              0.5041                      0.5254


                        CORRELATION MATRIX     CONTENT

                                     OBSERV     JUDGES

                          OBSERV     1.0000     0.7358
                          JUDGES     0.7358     1.0000
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REFERENCE:

B. J. WINER, Statistical Principles In Experimental Design. New York: McGraw-Hill, 1962, pp. 124-132.

TF 3

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BEHAVR    1

                     SUM OF SQUARES          N.D.F.     MEAN SQUARE          F RATIO        PROB F GRTER

BETWEEN STIMULI          0.7405            60.0000         0.0123
WITHIN STIMULI           0.3038            61.0000         0.0050
BETWEEN JUDGES           0.0080             1.0000         0.0080            1.6235           0.2075
RESIDUAL                 0.2958            60.0000         0.0049
TOTAL                    1.0443           121.0000

                                 WITH JUDGE VARIATION             WITHOUT JUDGE VARIATION

    RELIABILITY ACROSS JUDGES               0.5965                        0.6006
    RELIABILITY PER JUDGE                   0.4250                        0.4291


BEHAVR    2

                     SUM OF SQUARES          N.D.F.     MEAN SQUARE          F RATIO        PROB F GRTER

BETWEEN STIMULI          1.7692            60.0000         0.0295
WITHIN STIMULI           0.4604            61.0000         0.0075
BETWEEN JUDGES           0.0033             1.0000         0.0033            0.4320           0.5135
RESIDUAL                 0.4571            60.0000         0.0076
TOTAL                    2.2296           121.0000

                                 WITH JUDGE VARIATION             WITHOUT JUDGE VARIATION

    RELIABILITY ACROSS JUDGES               0.7441                        0.7416
    RELIABILITY PER JUDGE                   0.5924                        0.5894


BEHAVR    3

                     SUM OF SQUARES          N.D.F.     MEAN SQUARE          F RATIO        PROB F GRTER

BETWEEN STIMULI          0.8305            60.0000         0.0138
WITHIN STIMULI           0.4500            61.0000         0.0074
BETWEEN JUDGES           0.0007             1.0000         0.0007            0.0887           0.7668
RESIDUAL                 0.4494            60.0000         0.0075
TOTAL                    1.2806           121.0000

                                 WITH JUDGE VARIATION             WITHOUT JUDGE VARIATION

    RELIABILITY ACROSS JUDGES               0.4670                        0.4589
    RELIABILITY PER JUDGE                   0.3046                        0.2978


BEHAVR    4

                     SUM OF SQUARES          N.D.F.     MEAN SQUARE          F RATIO        PROB F GRTER

BETWEEN STIMULI          0.1683            60.0000         0.0028
WITHIN STIMULI           0.0794            61.0000         0.0013
BETWEEN JUDGES           0.0003             1.0000         0.0003            0.2411           0.6252
RESIDUAL                 0.0791            60.0000         0.0013
TOTAL                    0.2477           121.0000

                                 WITH JUDGE VARIATION             WITHOUT JUDGE VARIATION

    RELIABILITY ACROSS JUDGES               0.5357                        0.5299
    RELIABILITY PER JUDGE                   0.3659                        0.3604
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TF 4

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BEHAVR     5

                    SUM OF SQUARES          N.D.F.     MEAN SQUARE        F RATIO       PROB F GRTER

BETWEEN STIMULI          0.2288            60.0000         0.0038
WITHIN STIMULI           0.1236            61.0000         0.0020
BETWEEN JUDGES           0.0001             1.0000         0.0001          0.0615          0.8049
RESIDUAL                 0.1235            60.0000         0.0021
TOTAL                    0.3523           121.0000

                              WITH JUDGE VARIATION         WITHOUT JUDGE VARIATION

      RELIABILITY ACROSS JUDGES            0.4687                  0.4604
      RELIABILITY PER JUDGE                0.3061                  0.2990
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BEHAVR     6

                    SUM OF SQUARES          N.D.F.     MEAN SQUARE        F RATIO       PROB F GRTER

BETWEEN STIMULI          1.0319            60.0000         0.0172
WITHIN STIMULI           0.4344            61.0000         0.0071
BETWEEN JUDGES           0.0000             1.0000         0.0000          0.0047          0.9458
RESIDUAL                 0.4344            60.0000         0.0072
TOTAL                    1.4663           121.0000

                              WITH JUDGE VARIATION         WITHOUT JUDGE VARIATION

      RELIABILITY ACROSS JUDGES            0.5859                  0.5791
      RELIABILITY PER JUDGE                0.4144                  0.4075
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BEHAVR     7

                    SUM OF SQUARES          N.D.F.     MEAN SQUARE        F RATIO       PROB F GRTER

BETWEEN STIMULI          1.6116            60.0000         0.0269
WITHIN STIMULI           0.2649            61.0000         0.0043
BETWEEN JUDGES           0.0003             1.0000         0.0003          0.0644          0.8005
RESIDUAL                 0.2646            60.0000         0.0044
TOTAL                    1.8765           121.0000

                              WITH JUDGE VARIATION         WITHOUT JUDGE VARIATION

      RELIABILITY ACROSS JUDGES            0.8383                  0.8358
      RELIABILITY PER JUDGE                0.7216                  0.7179
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BEHAVR     8

                    SUM OF SQUARES          N.D.F.     MEAN SQUARE        F RATIO       PROB F GRTER

BETWEEN STIMULI          0.1261            60.0000         0.0021
WITHIN STIMULI           0.0966            61.0000         0.0016
BETWEEN JUDGES           0.0014             1.0000         0.0014          0.9093          0.3441
RESIDUAL                 0.0951            60.0000         0.0016
TOTAL                    0.2227           121.0000

                              WITH JUDGE VARIATION         WITHOUT JUDGE VARIATION

      RELIABILITY ACROSS JUDGES            0.2470                  0.2459
      RELIABILITY PER JUDGE                0.1409                  0.1407
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                                          TF 5
BEHAVR     9
                 SUM OF SQUARES          N.D.F.    MEAN SQUARE          F RATIO      PROB F GRTER

BETWEEN STIMULI            0.9059        60.0000          0.0151
WITHIN STIMULI             0.4256        61.0000          0.0070
BETWEEN JUDGES             0.0000         1.0000          0.0000         0.0047          0.9455
RESIDUAL                   0.4256        60.0000          0.0071
TOTAL                      1.3316       121.0000

                             WITH JUDGE VARIATION          WITHOUT JUDGE VARIATION

   RELIABILITY ACROSS JUDGES                0.5379                    0.5302
   RELIABILITY PER JUDGE                    0.3679                    0.3608


BEHAVR     10
                 SUM OF SQUARES          N.D.F.    MEAN SQUARE          F RATIO      PROB F GRTER

BETWEEN STIMULI            0.3074        60.0000          0.0051
WITHIN STIMULI             0.1546        61.0000          0.0025
BETWEEN JUDGES             0.0032         1.0000          0.0032         1.2652          0.2652
RESIDUAL                   0.1514        60.0000          0.0025
TOTAL                      0.4620       121.0000

                             WITH JUDGE VARIATION          WITHOUT JUDGE VARIATION

   RELIABILITY ACROSS JUDGES                0.5052                    0.5073
   RELIABILITY PER JUDGE                    0.3380                    0.3399


BEHAVR     11
                 SUM OF SQUARES          N.D.F.    MEAN SQUARE          F RATIO      PROB F GRTER

BETWEEN STIMULI            0.2155        60.0000          0.0036
WITHIN STIMULI             0.0934        61.0000          0.0015
BETWEEN JUDGES             0.0000         1.0000          0.0000         0.0242          0.8769
RESIDUAL                   0.0934        60.0000          0.0016
TOTAL                      0.3089       121.0000

                             WITH JUDGE VARIATION          WITHOUT JUDGE VARIATION

   RELIABILITY ACROSS JUDGES                0.5737                    0.5668
   RELIABILITY PER JUDGE                    0.4023                    0.3955


BEHAVR     12
                 SUM OF SQUARES          N.D.F.    MEAN SQUARE          F RATIO      PROB F GRTER

BETWEEN STIMULI            0.0327        60.0000          0.0005
WITHIN STIMULI             0.0125        61.0000          0.0002
BETWEEN JUDGES             0.0002         1.0000          0.0002         1.0949          0.2997
RESIDUAL                   0.0123        60.0000          0.0002
TOTAL                      0.0452       121.0000

                             WITH JUDGE VARIATION          WITHOUT JUDGE VARIATION

   RELIABILITY ACROSS JUDGES                0.6240                    0.6246
   RELIABILITY PER JUDGE                    0.4535                    0.4541
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